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**THE PAWLING/WETHERILL HOUSE AT WALNUT HILL ESTATE:
AN ARCHITECTURAL INTERPRETATION**

Christine Pilar Mesa

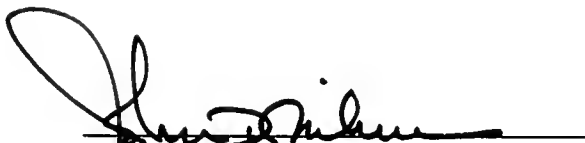
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Introduction

The subject of this thesis is the Pawling/Wetherill mansion, located in Valley Forge National Historical Park, Pennsylvania. This structure consists of two distinct portions: The Pawling residence, built in the 18th Century, and the Wetherill addition, constructed in 1836. The mansion was ravaged by fire in 1967, with the majority of the damage confined to the 1836 addition.

This thesis proposes that a building is a product of its own history. The existing architectural fabric of the Pawling/Wetherill house can inform an architectural intervention: an intervention that will serve as a framework to aid in the interpretation of the history of the building.

This thesis continues the investigation of the Pawling/Wetherill Estate begun by Thomas McGimsey in his thesis of 1992. It is only through a thorough exploration of this building and the nature of its existing spaces, that one will be able to decipher a viable function for this structure.

The ultimate goal of this thesis is to develop a design intervention that will sensitively respond to the structural needs of the house itself, and coincide with the interpretive nature of Valley Forge National Historical Park. The Pawling/Wetherill Estate

embodies centuries of change, clearly marking the passage of time. This thesis will signify this passage by including a contemporary design which not only highlights the existing changes that have occurred, but introduces this building to a 21st Century design intervention.

Chapter 1

Historical Significance

Introduction

The historical overview of the Pawling/Wetherill Mansion should be discussed in terms of its "significance", since it is for these reasons that the building in its present state should be preserved and revitalized. The entire premise of Valley Forge National Historical Park is founded upon the roles of its site and structures during two significant eras: the Winter Encampment of 1777-78, and the 19th Century development of scientific agriculture. The Pawling/Wetherill Mansion, as well as the site upon which it is located, represent both of these eras, as evident in the mansion's two distinct modes of architecture.

Site Significance

The Pawling/Wetherill mansion is located on the north side of Valley Forge National Historical Park, separated from the south side by the Schuylkill River (Figure 1). The south side continues to be the most developed section, in terms of its public activity and educational facilities; it is truly the heart of Valley Forge National Historical Park. The focus of the park today, in terms of development and interpretation, is shifting to its relatively underdeveloped north side and its roles in the Winter Encampment of 1777-78, which represents the historical foundation upon which the entire park is based.

Winter Encampment of 1777-78

"Valley Forge remains today a site of paramount importance in the struggle for American independence. For it was during the encampment of Washington's Continental Army at Valley Forge during the winter of 1777-78, that lacks the glory or even exhilaration of battle, that the commitment of the patriots was put to the severest test. The encampment foreshadowed the struggle to shape a nation out of revolution and demonstrated that a measure of independence must be sacrificed in order to gain liberty. Because enormous practical obstacles to the creation of an army were overcome in the midst of deprivation, Valley Forge stands as an interval as significant as any battle and is deeply embedded in the American conscience."¹

The north side of what is now Valley Forge National Historical Park, during the Winter Encampment of 1777-78 was primarily utilized to service the remainder of the area. After the defeats the Continental Army endured at Brandywine and Germantown, Washington's Army was forced to establish a camp in the region of Valley Forge during the winter months. The north side functioned as a commissary area for supply procurement and distribution departments: the gathering and distribution of food, equipment, and armaments. This area was a suitable location for such an activity, due to its proximity to Philadelphia, and other major supply centers, as well as its connection to the larger region by roads and river transport.²

The structures located on the north side, although privately owned, were transformed during the encampment to service the functions required of this area. "It is likely

¹"General Management Plan, Valley Forge National Park", National Park Service, Mid-Atlantic Region, 1982, 3.

²"Valley Forge North Side Development Concept Plan and Environmental Assessment (Draft)", National Park Service, Mid-Atlantic Region, 1994, 3.

that many of the farms, barns, fields and food processing structures throughout the entire area were used to hide livestock, store fodder or other supplies and dress meat for the soldiers in the encampment."³ The Henry Pawling I and II residences and related serviceable buildings were no exception, providing housing for commissary activities or hospitals.⁴

The Pawling/Wetherill Mansion

The Pawling/Wetherill Mansion, located on the Walnut Hill Estate on the north side of the current Valley Forge National Historical Park, is comprised of two distinct sections: the Pawling house and the Wetherill addition of 1836 (Figure 2). The surviving Pawling house, constructed in the mid-18th century by Henry Pawling II, is situated at the northern end of the existing overall mansion. The construction of the Wetherill addition in 1836 resulted in the demolition or removal of at least half of the original Pawling house. Based upon the 1798 "Window Pane Tax"⁵ and the surviving fabric of the house, Thomas McGimsey in his Thesis of 1992 was able to construct a likely plan type of the Pawling house prior to the 1836 addition:

"Since the surviving portion of the house is at least half the size of the house of 1798 and includes an original central basement, a central hall plan seems very unlikely. The portion which was removed was approximately the same size as the

³"Valley Forge North Side Development Concept Plan and Environmental Assessment", 3.

⁴McGimsey, Thomas Clinton, "Untangling The History of the Pawling/Wetherill House at Walnut Hill Estate, Pawling Road, Lower Providence Township, Montgomery County, Pennsylvania", Masters Thesis, University of Pennsylvania, 1992, 59-63.

⁵Federal Direct Tax of 1798, Microfilm copies on file at the Historical Society of Montgomery County, Roll #9, 109.

remaining portion, and contained relatively few windows. A three room plan with a four bay elevation seems to be a likely model for the Pawling house, with some individual flourishes added."⁶(Figure 3)

The remainder of the Pawling house consists of a two-and-a-half-story stone structure which measures approximately twenty-two feet by thirty-four feet. The Pawling/Wetherill Mansion as it stands today is characterized by three distinct phases: the original construction of the Pawling house in the mid-18th century, the construction of enormous Wetherill addition and partial demolition of the Pawling house in 1836, and the devastating fire of 1967. The Pawling section of the mansion as it exists today is a diminutive wing contrasted in scale by the remains of the once palatial Wetherill addition (Figure 4).

The 18th century Pawling section, although half of its original size, served various functions during the Winter Encampment of 1777-78. This section quartered Thomas Jones, Assistant Commissary of Issues; John Chaloner, Assistant Commissary of Purchases; and Ephraim Blaine, Deputy Commissary of Purchases for the Middle Department. All houses, outbuildings, and fields located on the Walnut Hill Estate were used for housing, storage, or other administrative purposes during the encampment. There is also evidence that other buildings owned by the Pawling Family throughout this region were used as the Headquarters for the Commissary by the staff of the Commissary General, and perhaps the Commissary General himself.⁷

⁶McGimsey, 66.

⁷McGimsey, 59-64.

Scientific Agriculture

Towards the end of the 18th century, American agriculture was entering a revolutionary era, in terms of both the new technology introduced and the methods of farming employed. Essentially, these changes heralded the shift from sustenance farming to scientific agriculture. This revolution is not a direct result of the machine entering the garden; it represents an entire overhaul in actual farming techniques, resulting in purely commercial operations.

New farming methods, such as crop rotation, and the application of lime and manure for soil conditioning, increased crop yields dramatically. The prospect of farming for profit enticed the wealthy and "infusions of capital from industrialists or urban financiers consolidated smaller farms into larger landholdings."⁸ To accommodate this shift to large-scale agriculture, new integrated farm buildings developed. The livestock would now be located on the ground floor of barns, below the grain bins and hay mows that could store, ventilate, and easily dispense to feed the animals below.

This revolutionary shift from small, self-sufficient farming operations to an integrated commercial and technological enterprise was instigated in this region by the Wetherill Family. The Wetherill's "cleared more land, invested capital from their

⁸"Valley Forge North Side Development Concept Plan and Environmental Assessment", 28.

industrial pursuits into more acreage and modern farm buildings, and hired seasonal help to cultivate, harvest, and market crops."⁹

Wetherill Addition of 1836

As the 18th century Pawling house on the Walnut Hill Estate demonstrates the role of several structures on the north side of Valley Forge National Historical Park during the Winter Encampment of 1777-78, the buildings and alterations of the Wetherill Family to this estate reflect the era of the 19th century agricultural revolution of the area.

Located on the site of the Pawling/Wetherill Mansion is the masonry barn constructed by Samuel Wetherill, Jr. in 1826, and enlarged to its current size by his son, John, in 1845 (Figure 5). According to a 1798 tax assessment on Henry Pawling (III)'s property, a log barn existed, measuring 40 feet by 33 feet on the Walnut Hill property. It is most likely that this Pawling barn was demolished prior to the construction of the Wetherill barn, for there is no physical or documentary evidence to support the theory that the Pawling barn was incorporated into the Wetherill structure.¹⁰

⁹"Valley Forge North Side Development Concept Plan and Environmental Assessment", 29.

¹⁰Vincent, Brooke Elin, "Function and Use of the Nineteenth-Century Barn, Walnut Hill Estate, Pawling Road, Lower Providence Township, Montgomery County, Pennsylvania", Masters Thesis, University of Pennsylvania, 1991, 47.

Today, the Wetherill barn represents the largest stone barn in Montgomery County, and its size attests to the commercial nature of the agricultural revolution. The region became the site of agricultural development and innovation under the impetus of Samuel Wetherill and the industrialization of Philadelphia. "Eighteenth Century farms were consolidated and magnificent barns and outbuildings were built. Earlier dwellings were enlarged to become stately homes. This was the golden age of agriculture for southeastern Pennsylvania, and the era of the 'gentleman farmer'."¹¹ The Wetherill barn, and particularly the enlargement of the Pawling house by the Wetherills, truly symbolize the introduction of the "gentleman farmer" to the north side of Valley Forge.

The addition to the Pawling house constructed by John Price Wetherill in 1836 has been characterized as representing the "Greek Revival" style (Figures 6 & 7). This term utilized to describe the addition is inaccurate, for the proportions and arrangement of this section conflict with the symmetrical layout and overall classical vocabulary equated with the Greek Revival style. The addition is most likely a product of the Picturesque Theory from 1838-1860, in which architects believed that beauty is relative, not absolute; and they began to challenge the rules of classical order. The Picturesque Theory expressed a creative freedom within architecture, as demonstrated through an asymmetrical arrangement of plans, an expression of circumstance, and a relativism of manner and mode. This theory embodies a

¹¹"Valley Forge North Side Development Concept Plan and Environmental Assessment", 13.

romanticism of the past, leaving anything from the past as free game subject to interpretation.

The style and proportions of the Wetherill addition recall the past, and perhaps it could be viewed as representative of the pivotal point when Romantic Classicism evolved into the Picturesque Theory. Romantic Classicism, specifically the national mode of Greek Revival, romanticized the concept of choice within architecture, and classical orders were to be revived with an unprecedented level of freedom and creativity. Although there was a level of freedom within the Romantic Classicism mode of architecture, the asymmetry and proportions of the addition extend far beyond the boundaries of the free classical order as defined by the Greek Revival style.

The Wetherill addition symbolizes a concern with the creation of an image which recalls the past: a characteristic attributed to buildings following the Picturesque Theory. The addition, as contrasted with the 18th century base from which it developed, evokes an image of grandeur; a palatial estate for a gentleman farmer. The modern intervention proposed by this thesis will serve to highlight the past, as the Wetherill family chose to honor the past by retaining a portion of the 18th century Pawling house (Figures 8 & 9). The Wetherill's interest with the past, as evidenced by the remaining Pawling section and the 1836 addition which evokes an image of past architecture, provides the guidelines to which any intervention should

adhere. The history embodied within the Pawling/Wetherill Mansion should be preserved, allowing for the original architectural fabric of the structure to describe its centuries of change.

Chapter 2

Summary of 1994 Draft of Valley Forge North Side Development Concept Plan

Introduction

In order to determine an appropriate use for the Pawling/Wetherill Mansion, it is necessary to examine the current proposals which exist for the North Side, as viewed and documented by the Valley Forge National Historical Park in the "Valley Forge North Side Development Concept Plan and Environmental Assessment, July 1994".¹² The north side is comprised of the following areas: Meadow Grove, Walnut Hill, Fatlands, and Betzwood (Figure 10). Meadow Grove is defined by the existing Pawlings Road bridge over the Schuylkill River at the west edge of the site and includes all of the park property from Pawlings roads to the retention basins along the river. Walnut Hill is the region within the middle of the site across from Valley Creek overlooking the river. Today, it includes all park property south of Pawlings Road to the Schuylkill River between the retention basins and the access roads at the Betzwood picnic area. Fatlands consists of the area at the crest of the hill near the junction of Audubon and Pawlings Road and includes all park property between Route 422 and Pawlings or Audubon Road. Betzwood is the picnic area and bridge that crosses the Schuylkill River connecting trooper Road and Route 23 on the east

¹²"Valley Forge North Side Development Concept Plan and Environmental Assessment (Draft)", National Park Service, Mid-Atlantic Region, July, 1994.

side of the overall site. It includes the park property between Route 422 and the river from the Betzwood Bridge to the end of the access road where the River Trail begins. This summary will focus on the proposals which implicitly concern the Walnut Hill Estate, where the Pawling/Wetherill Mansion is located.

This concept plan was conceived as a means to encourage the transfer of activity from the south to the north side of Valley Forge National Historical Park. Its goal is "to interpret the Walnut Hill area's resources so visitors can understand the function of the Commissary, the magnitude of supply issues in the Continental Army and the relation of the Commissary and supply issues to the Winter Encampment on the south side."¹³ The area located on the north side of the park is threatened by local and state plans for public land acquisition and development. Valley Forge National Historical Park needs to continue to function as the major open space in a region of vast development. This summary presents the three alternatives, as viewed by the National Park Service for the overall north side, as well as the effect of each alternative on the Walnut Hill Estate.

Alternative 1: Maintain the Existing Condition

Under this proposal, the area will remain fundamentally underdeveloped, and the visitor experience will be focused on providing dispersed opportunities for recreation in a rural setting. Any significant changes will serve only as a means to prevent

¹³"Valley Forge North Side Development Concept Plan and Environmental Assessment", 6.

further deterioration. The historic exteriors of the structures located on the North Side are to be stabilized and the interiors will be reserved for maintenance or administrative uses. No scheduled interpretation will be offered by the park' leaving the visitors to explore the area on their own.

Alternative 2: Focusing on Recreation

The main concentration of interpretive programs and facilities will remain at the visitor's center and Washington's Headquarters' area on the south side. The landscapes of the north side will be managed for their commemorative value, and picnicking and other organized recreation activities will be relocated north of the river to the greatest extent possible. The north side will contain a series of recreation and interpretive areas linked together by trails along the river and the upper slope within an open, park-like setting.

Alternative 3: Focusing on Interpretation

Areas of the north side will be managed for either their commemorative value or their contribution to the interpretive vista. The north side will serve as its own interpretive core with Walnut Hill as its focus. The Walnut Hill Landscape and building exteriors will be restored to a mid-nineteenth century appearance, and strict preservation standards will be applied to the Walnut Hill complex.

Walnut Hill

Alternative 1 proposes that Walnut Hill will remain as an open space for small group recreation. Alternative 2 proposes that Walnut Hill will be designated as an Historic Area. Both of these proposals call for the preservation and stabilization of the mansion, barn and outbuildings, with the barn containing limited park storage on its bottom floor. In addition, these two proposals deny public access to the mansion, barn, or outbuildings.

In the third proposal, the mansion and outbuildings of Walnut Hill will be stabilized for interpretive use, allowing for varied degrees of public access. The barn facade will be preserved for interpretation, and its interior will be adaptively used for park maintenance and storage. The visual and physical connection between the farm and river will be reestablished through the demolition of the southeast portion of the lower impoundment basin wall. The Walnut Hill Estate will be designated as an Historic Area.¹⁴

Conclusion

The most appropriate solution for determining the future of the north side exists within the Third Alternative. The first two alternatives do not allow any public access to the Pawling/Wetherill Mansion, leaving this building, along with the other structures, to be viewed merely as objects within the landscape. The Third

¹⁴"Valley Forge North Side Development Concept Plan and Environmental Assessment".

Alternative, however, is not without its faults; primarily its proposal to restore the site and building exteriors to a mid-nineteenth century appearance. The landscape and the buildings, particularly the Pawling/Wetherill Mansion, have changed drastically since the mid-nineteenth century, and to pick a seemingly random time frame to which the restoration should adhere is a disservice to the public. The visitors should be made aware that this area was occupied and modified well into the twentieth century, and today it serves as testimony to history as a continually evolving process.

To restore the buildings to their mid-nineteenth century appearance, even if it is only the exteriors, not only involves restoration, but reconstruction as well. The most marked alteration to the Pawling/Wetherill Mansion occurred with the fire of 1967, and one would have to reconstruct portions of the 1836 addition, including its roof, in order to accurately recreate its mid-nineteenth century appearance. These buildings should be open for public access and interpretation, as the third alternative states, but the interpretation should be on the part of the visitors to decipher and formulate their own conclusions.

Chapter 3

Current Building Condition

Introduction

The Pawling/Wetherill Mansion has remained unoccupied since the time of its fire in 1967. The damage that is evident in the structure today is not only a direct result of the fire, but also the twenty years it has been left abandoned. This section represents a general summary of the structural problems inherent within the present building in order to accommodate a modern intervention and the safe entry of the public.

The Pawling Section

This portion of the mansion was not directly affected by the fire, due to the height differential between this section and the Wetherill addition (Figures 11, 12, & 13). The thick, full-height stone wall of the Wetherill addition which separates the two sections is significantly higher, and served to protect the Pawling portion of the house from the fire. As a result, the problems found within the Pawling section are a result of the twenty years of abandonment.

The interior wood framing system as it stands today would not be able to accommodate the live loads which accompany public access. Several attempts have

been made to stabilize the interior framing system, utilizing wood and steel columns on all floors, particularly the basement, as a means of temporary support. Along the ceiling of the first floor, several joists have been compromised, most likely to accommodate a twentieth century plumbing system (Figure 14). The main summer beam which runs along the second floor ceiling rests on top of a lintel, and is currently supported by a steel column (Figure 15).

The exterior envelope of the roof has been covered in recent years. The roof now has a standing seam metal roof placed on top of its earlier wood shingles. The exposed rafters at the eave show signs of water damage. The exterior masonry of the house appears to be in relative good condition, although needing to be repointed (Figure 16).

Although this section of the mansion still reads as a house (Figures 17, 18, & 19), it does not have the capability to accommodate any additional live loads on its own. The entire interior wood framing, even the flooring itself, weakening as a direct result of the many years of abandonment, and will require stabilization and reinforcement. The roof system as well will have to be stabilized. The exterior porches should be restored for public access and maintain the continuity of the exterior.

The Wetherill Addition

All that remains of the interior wood framing of the Wetherill addition rests in a pile of timber at its basement level. Portions of a few joists protrude from the interior wall connected to the Pawling section of the mansion (Figure 20). Essentially, this section is a masonry shell. Original plaster can still be found on the walls, leaving traces of partition walls, stairs, and a finished attic (Figures 20 & 21). Fireplaces and remnants of extant systems, such as heating vents, light fixtures, and second story bathroom plumbing, remain as evidence to the structure's previous function (Figures 22-25). Several doors, shutters, and interior window frames managed to survive the fire, along with a few wood moldings surrounding both doors and windows. A second story bathroom soap dish, a closet complete with rod and hanger, and children's drawings along basement level plaster serve as humanizing elements to this shell.

The problems which exist within this section lie in the door and window openings of the south, east, and west walls and its interior masonry wall. The second story door openings of the interior wall and window openings along the west wall are beginning to arch themselves as a result of the failure of the wood framing which once supported them (Figure 26). The arched doorways of the south, east, and interior walls show symmetrical cracking, and the brick from which these arches are constructed are losing their mortar joints, resulting in the loss of several bricks (Figures 27-29). The eastern doorway on the south wall and the central doorway of the interior wall now extend clear through to the basement level, due to the collapse

of the floor separating the two levels, and create two-story openings(Figure 30). The second story windows of the south and east walls have already lost their upper masonry portion (Figures 31 & 32).

The chimneys along the west wall, which exist to the south and north of the addition's interior wall, are losing sections of their brick. Because the chimneys are entities unto themselves, protruding inward from the exterior wall, these individual problems could eventually result in a deterioration of the whole (Figures 33 & 34).

The northern wall connected to the Pawling section of the house exhibits the least amount of problems. There are very little signs of cracking on the first two stories, and those that do exist appear only to be surface cracking within the plaster (Figure 35). The attic level maintains its sloped configuration. The window opening to the west shows symmetrical cracking on either side, while the eastern window has lost its lintel and half of its east side (Figure 36).

The columns surrounding the east and south sides of the addition are losing portions of their wire-meshed stucco, and the brick that is exposed is losing its mortar joints (Figure 37). Further deterioration is occurring as a result of an overgrowth of vines enveloping the individual columns (Figure 38). The base of the columns appear to be structurally sound; their only openings being joist pockets for the wood framing of the former porch (Figure 39). The porch has been completely destroyed. Its

foundation wall remains, along with several steps which lead to the basement level. Within the Wetherill addition, any large missing portions of masonry, as with the fireplaces and arched openings, should be replaced with similar material so as to prevent further deterioration. All of the debris located on the basement level should be excavated, and remnants of unsafe extant systems should be removed, such as the loose second story plumbing. Although the interior wall provides some lateral support, the height and level of deterioration of the exterior walls necessitates the introduction of a modern support system. The columns themselves will most likely require an additional means of support, for they were never intended to be free-standing.

Chapter 4

Design Precedents

Introduction

"Places we remember and places we anticipate are mingled in the present time. Memory and anticipation, in fact, constitute the real perspective of space, giving it depth."¹⁵ -Aldo Van Eyck

Prior to developing any design, it is informative to evaluate several past approaches to similar architectural problems. It is only through an awareness of past architectural solutions that one can begin to design for the future by learning from their failures, and benefitting from their successes. With the introduction of a modern intervention to an older structure, the sensitivity required on the part of the architect extends far beyond any contextual issues that an entirely new building might confront. The new architecture should complement the original building, respecting the historic fabric which surrounds it. That is not to say that these older structures have remained stagnant for years, cleverly avoiding any past modifications. The majority of older structures have already endured various alterations through time, and any present intervention should be viewed as part of this evolution.

The four precedents to be evaluated represent different designs with a similar underlying theme: sensitive modern interventions as natural extensions of their

¹⁵Robert, Philippe, Adaptation: New Uses for Old Buildings, (New York: Princeton Architectural Press, 1989), 1.

surrounding past architecture. Interventions such as these allow architecture to be viewed as part of a continuum, perpetually reinventing itself.

Franklin Court: Philadelphia, Pennsylvania, 1976

Venturi & Rauch, Architects

National Heritage Architects & Planners (John Milner, AIA), Restoration Architects

In honor of the Bicentennial, Franklin Court was developed on the site of Benjamin Franklin's residence as a monument to the man and his achievements. The actual residence was demolished in 1812 and, as historians were unable to provide enough detail, an accurate reconstruction was an impossibility. To avoid an imprecise or false replica, a ghost house was designed that would evoke spatially an impression of Franklin's house (Figure 40). This structure is situated in a public open space, reminiscent of an 18th Century garden, which blends a historical shrine with interpretive exhibits. Although the courtyard illicitly an image of an 18th Century garden, it is detailed in a more contemporary way, scaled and landscaped to accommodate 20th Century crowds.¹⁶

One can enter the courtyard through the original carriageway off of Market Street, which is flanked on either side by 18th Century houses built and rented to tenants by Franklin. The exteriors of these houses have been recreated, while their interiors contain varied exhibits. "This design is in response to the following National Park

¹⁶"Franklin Court, Philadelphia. Venturi and Rauch", AIA Journal, V.66, 1977, 28-49.

Service goals for the project: a museum explaining the range of Franklin's activities, display of the archeological remains of Franklin's own house, preservation of the remains of the rental houses he built and accurate reconstruction of their facades, and a monument to Franklin appropriate to the site of his home in Philadelphia."¹⁷

Perhaps the most significant aspect of the overall Franklin Court scheme, in terms of programmatic issues, is the renovated rental house to the left of the courtyard which displays the architectural and archeological artifacts of the site and building itself. After entering the completely restored exterior, one is presented with a series of displays which highlight existing architectural evidence linked together by an unobtrusive modern circulation system (Figure 41). The evidence is presented in a manner which permits one to decipher the relevance of individual fragments to the entire structure as a whole (Figure 42). The modern circulation system serves only as a means to move through the structure, and makes no attempt to overshadow the architectural evidence to be viewed. The architectural vocabulary of the intervention is completely modern; and this contrast between the implicitly modern circulation and existing historical architecture serves as a means to highlight the displayed artifacts by not blurring the distinction between the intervention and the historical structure (Figure 43).

This program allows the building to be viewed as it stands today: a product of its own

¹⁷"Franklin Court", Architecture and Urbanism, January, 1978.

history. The displays also furnish the visitor with the opportunity to learn about history in terms of architectural evidence. By revealing the built history of the structure and not restoring the interior to its 18th Century appearance, the interior of the rental house forces the visitor to utilize their imagination in order to piece together what once existed. For this reason, this program could be deemed as one which is wholly interactive, and particularly appealing to children due to its element of discovery.

Franklin Court embodies a duality similar in nature to that of the existing Pawling/Wetherill Mansion. At Franklin Court, the tactile and visible architectural evidence, as presented in the rental house on Market Street, is contrasted by the ghost impression of Franklin's house, which completely relies on one's imagination.

At Walnut Hill, the 18th Century Pawling portion of the house still reads as a residence and maintains a great deal of architectural evidence; while the Wetherill addition, whose roof and interior wood framing were destroyed in the fire, represents a shell of its former self.

Hyde Park Barracks: Sydney, Australia, 1990
Tonkin Zulaikha Harford Architects

Hyde Park Barracks was designed by Francis Greenway in 1817 as a structure to house convicts and was utilized for various purposes up until its renovation in 1990 (Figure 44). The goal of the 1990 project was to preserve the barracks and to

establish it as a museum of its own history. Previous additions that concealed the historic fabric were removed, and a bold, modern approach was implemented to distinguish any new work from the original building. The conservation work on the structure was aimed to restore its authentic 19th century appearance, while the new intervention was constructed of completely modern materials: steel, aluminum, and glass (Figure 45). The elegance of the new work lies in its physical contact with the original structure, for it only touches the existing building very lightly.

"The original interior of Hyde Park Barracks has been reconstituted, so that the building itself is revealed as evidence of history as a process, in layers that range in chronology and effect, from authentic restoration, through exposure of various tamperings of time, to current interventions that bring a poignant contrast to archaic memories...all of which enable the visitor to engage sympathetically in the passage of the building's changing occupancies. (It is) architecture mediating with life."¹⁸

Hyde Park Barracks illustrates an infusion of modern architecture and new materials into an older structure, to demonstrate the passage of time embodied within the original building. This method is appealing, for the Pawling/Wetherill Mansion is clearly a product of its own history as marked by its significant alterations. Hyde Park Barracks is truly a sensitive intervention whose modern architecture serves to

¹⁸"Hyde Park Barracks: A Conservation Project by Tonkin Zulaikha Harford Architects", Architecture Australia, November-December, 1992, 50-51.

highlight the historic fabric within which it is placed.

Fondazione Querini-Stampalia: Venice, 1961-63
Carlo Scarpa, Architect

This project entails the restoration of a 16th century palace (Figure 46) and the remodeling of the ground floor, unstable because of periodic flooding, and the courtyard, both designed by Scarpa. For Scarpa, the water of the ground floor was not a problem, but an inspiration. Instead of denying entry to it, he allowed it to flow off more freely and, by raising the floors in the rooms at risk, he guaranteed their continued use. Also, his selection of appropriate materials reduced water problems to a minimum. The water enters through a grating on the canal side of the ground floor, and flows through a small channel along the walls in such a way as not to prevent people from freely walking around the rooms¹⁹(Figure 47).

In Scarpa's design of the ground floor, the path becomes a catwalk, and the obstacle of water becomes a motif for the design (Figure 48). This design strategy employs a creative architectural solution for a potentially damaging problem. It is an understatement to say that the Pawling/Wetherill Mansion has structural problems equally as damaging as periodic flooding. Scarpa's design demonstrates that inherent problems of a structure necessitate creative solutions, and have the ability to inform one's design.

¹⁹Los, Sergio, Carlo Scarpa, (Italy: Benedikt Taschen, 1993), 98-111.

Palazzo Lanfranchi: Pisa, 1983

Massimo Carmassi, Architect

In the town of Pisa, no new building has been constructed since the 14th century.²⁰ The urban grid and the building composition remain, though remodelled, rearranged, and even re-utilized. The renovation of Palazzo Lanfranchi demonstrates the approach to the current rehabilitation of the structures of Pisa by the "Ufficio Progetti". Its goals are as follows: "to restore the structures while leaving exposed all traces of work carried out throughout history, and without according undue preference to any particular time period; and to alter the existing structures by addition or subtraction in order to make them available for new functions."²¹ By not adhering faithfully to authentic restoration, this affords an exceptional capacity for creative work and enables the existence of new functions, representative of Pisa's tradition of urban change.

In the renovation of Palazzo Lanfranchi, all alterations to the original structure were integrated into the new overall scheme. The traces of the alterations to the rooms through time have been deliberately retained and, with the introduction of a modern materials, results in an overall eclecticism reflective of the city as a whole. The modern intervention consists of the creation of concrete floors and openings, and a

²⁰Robert, 12.

²¹Robert, 12.

metal system of circulation (Figure 49). The new architectural treatment maintains an unobtrusive elegance, which serves to commemorate the former architecture. The metal circulation system remains clear of the existing partition walls, creating a tenuous relationship with the existing structure (Figure 50). The metal paths appear to be temporary in nature, and pose a distinct contrast to the formidable walls of the original building (Figure 51).

The methodology of this approach, retaining the aspects of the additions, should be adhered with any attempts to interpret the Pawling/Wetherill Mansion. It reveals the changing nature of the structure, and the modern intervention simply represents another change in the course of its existence. This approach demonstrates that buildings are not static and implies the vitality inherent within a continually evolving structure. The Pawling/Wetherill Mansion was functioning as a "living" structure, privately occupied up until the time of its fire in 1967, and this vital aspect should be reflected in any intervention.

Chapter 5

Annotated Program

"Valley Forge National Historical Park's first responsibility is to conserve the historic resources, second to interpret critical events of our nation's history and third to provide enjoyment for the general public."²²

The objectives of the design program this thesis proposes coincide with those outlined by Valley Forge National Historical Park. The modern intervention introduced by this thesis will serve as a framework to aid in the interpretation of the Pawling/Wetherill Mansion as a product of its own history. Although the majority of structures in Valley Forge are considered "interpretive", these buildings deal implicitly with restoration as a means of interpreting history. The Pawling/Wetherill Mansion cannot be appropriately restored to any particular time frame. It was a functioning, continually evolving structure well into the twentieth century. What is interpretive, or educational, about the present building is the structure itself. Both the fire and years of abandonment, although both incredibly detrimental to the building, served to uncover layers of architectural fabric. The interpretive nature of this program may differ slightly from that of Valley Forge; but it differs only in terms of the manner in which the historical evidence is presented.

The Pawling section of the mansion displays a wealth of architectural evidence, as

²²"Valley Forge North Side Development Concept Plan and Environmental Assessment", 10.

documented in Thomas McGimsey's Thesis of 1992.²³ Any modern intervention to be incorporated within the Pawling section will act as a means to present this architectural evidence, similar in nature to Franklin Court's method of displaying architectural fragments within the rental house. The intervention will utilize modern materials to contrast, and therefore highlight the existing architecture. A modern vertical circulation system will be constructed within the original framed opening of the stairway. The interior wood framing of the Pawling section as it stands today cannot support the live loads which accompany public access. For this reason, the modern intervention will essentially have to support itself, as well as provide additional structural support for the existing building.

The Pawling section of the mansion still reads as a house, due to its complete enclosure and the nature of the spaces within its walls. The residential feel of the house should not be lost, and it would serve as a distinct contrast to the openness of the Wetherill addition. The remains of the addition primarily consist of an exterior masonry envelope separated into two sections by an interior masonry partition wall. The section closest to the Pawling portion of the mansion will perform a similar function by having its modern intervention serve as a means to view the existing architectural fabric. This intervention would act as an architectural extension of the Pawling section, creating exterior "rooms" in the form of landings, walkways, and

²³McGimsey, Thomas C., "Untangling the History of the Pawling/Wetherill House at Walnut Hill Estate, Pawling Road, Lower Providence Township, Montgomery County, Pennsylvania", Masters Thesis, University of Pennsylvania, 1992.

stairs which parallel the imprint of the partition walls created by the plaster. The modern architecture of this area will be a structure which abstracts the original layout of the addition and creates an outdoor architecture within the envelope of the exterior walls. It is meant to be an area of complete openness and exploration, while alluding to the interior architecture that once stood in its place.

The second section of the Wetherill addition will extend from its northern counterpart, but will evolve into a sculptural garden at its base, which will respond to the proportions of the first level. This man-made garden represents the synthesis of architecture and nature: architecture created through landscaping. This section will flow into the sunken area where the porch once stood. It would be appropriate for this area to be designed to accommodate outdoor seating, since that was the previous function of the porch.

The modern intervention will evolve as it flows through the entire mansion, representing the overall evolution of the building. In the Pawling section, it will remain completely enclosed and adhere to the architecture of the space. In the northern section of the Wetherill addition, a new architectural vocabulary will be introduced. It will be similar in function to the Pawling section: the creation of "rooms"; but it will be much more open and recall different proportions. The sculptural garden of southern section of the Wetherill addition will represent architecture returning to nature as an object within the landscape. Seating areas

located in the sunken former porch symbolize a rejuvenation of past architecture; the appearance may be altered, but the function is still the same.

Chapter 6

Conclusion

The goal of this thesis is to create a design which would emphasize the Pawling/Wetherill house as a product of its own history. The house is divided into four sections, each which will serve to demonstrate significant eras of the house: The original Pawling house, the Wetherill addition, the fire of 1836, and the modern intervention of 1995.

The Pawling section will be preserved and stabilized. This section will still read as a house by maintaining all of its original fabric. The western door on the north elevation will be replaced with a window to restore its original configuration. The only modern alterations to the Pawling section are a new stair placed within the original framed opening, and four beams along the ceiling of each floor, running in the opposite direction of the joists. These beams are bolted into the masonry exterior walls and serve to support the interior wood framing, as well as the exterior walls. The Pawling section represents 18th century architecture, and the importance of this building to Valley Forge National Historical Park.

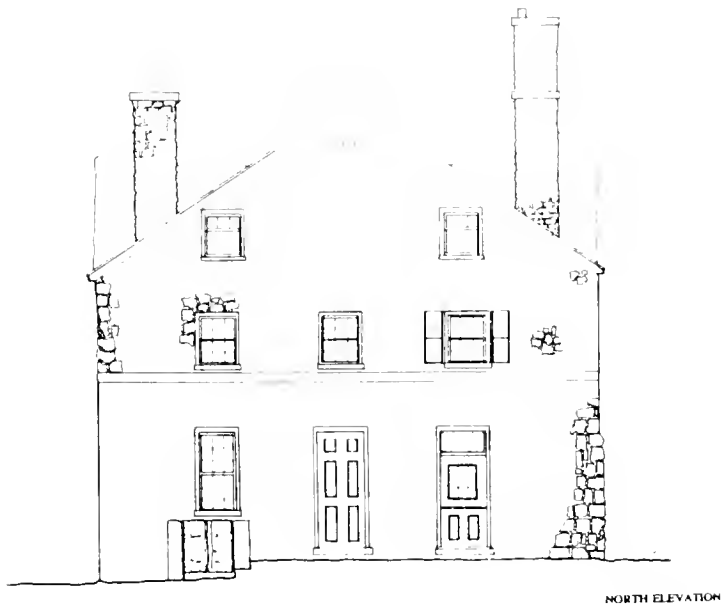
The portion of the Wetherill addition connected to the Pawling section and ending with the interior wall of the addition will accommodate a design which represents the introduction of a new mode of architecture, just as the Wetherill addition introduced

a new architectural vocabulary to the Pawling house. The new structure is pulled away from the walls to emphasize the envelope of the existing exterior walls of the 1836 addition. The circulation throughout the new structure forces one to move around the perimeter of the space, for the majority of architectural fabric remains along the exterior walls. The spaces that are created attempt to recreate the interior spaces that once existed within the addition by following the partition walls and the floor heights, which are now marks on the walls formed by plaster. They abstract the rooms that once existed and, whenever an area lines up directly with a partition wall, the railing becomes a solid parapet wall so as to mimic the wall that was once there. The structure itself is supported by several steel columns, primarily at the location of stairs, and additional steel beams serve to reinforce both the old and new structures by bolting into the masonry walls. This new structure is comprised entirely of steel to completely distinguish itself from the past architecture and, in doing so, serves to highlight the Wetherill addition.

The portion of the Wetherill addition from the interior wall to the south elevation represents the fire and the building returning to nature as an object within the landscape. This section reflects the tenuous relationship between built architecture and nature. Stairs leading from the first floor bridge move the visitor through the space and direct the visitor to the surrounding porch area. Planes of grass outline the perimeter of the space and are extensions of the existing openings, demonstrating the differences between the east and west elevations. A pool of water stretches out

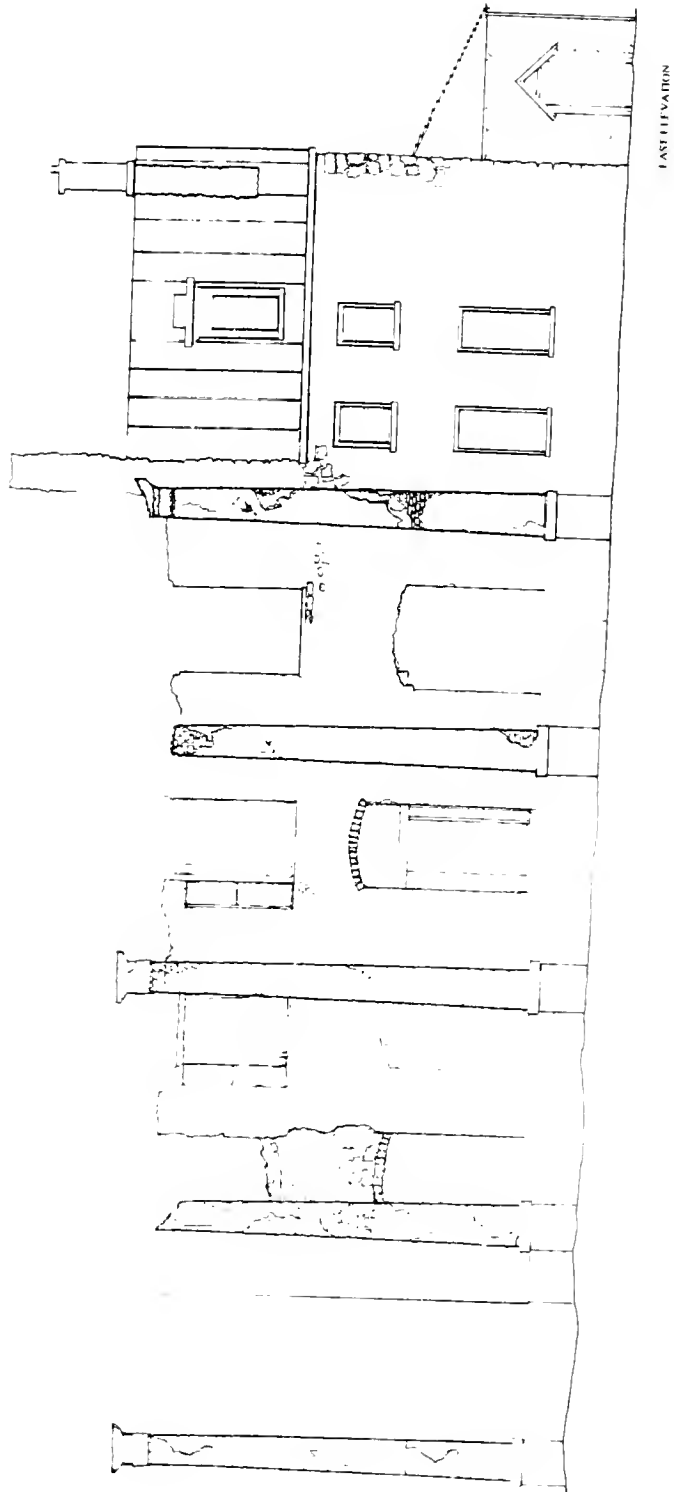
into the porch area to visually draw one's eye outward, and it fills the void created between two column bases. This area is supported by steel tension cables which rest on a "technological" base within the planes of grass. This move serves to represent the machine entering the garden; the whole reason why this addition was built.

The remaining porch area symbolizes this building entering a new era, with the overall design suggested by this thesis. The porch area is restored in terms of its function; it once again becomes a seating area. The trellice along the south wall mimics the joists that once supported the original porch, and acts as a natural shelter for those sitting beneath its shadow.

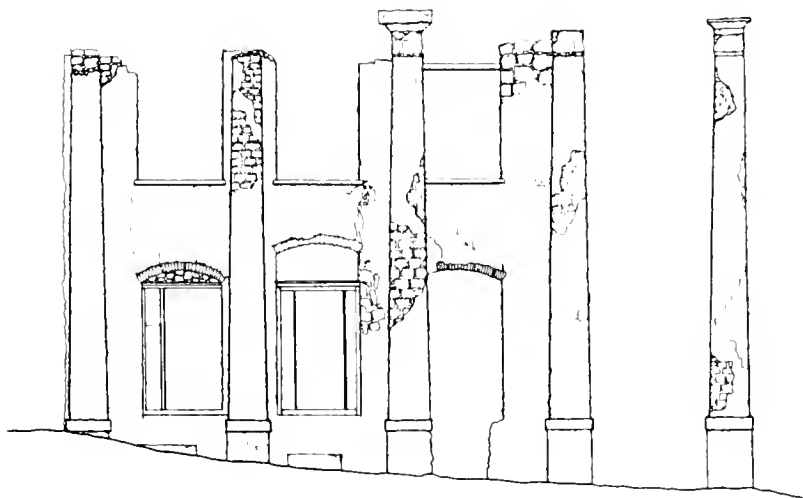


NORTH ELEVATION

North Elevation, Drawn by Author, 1995

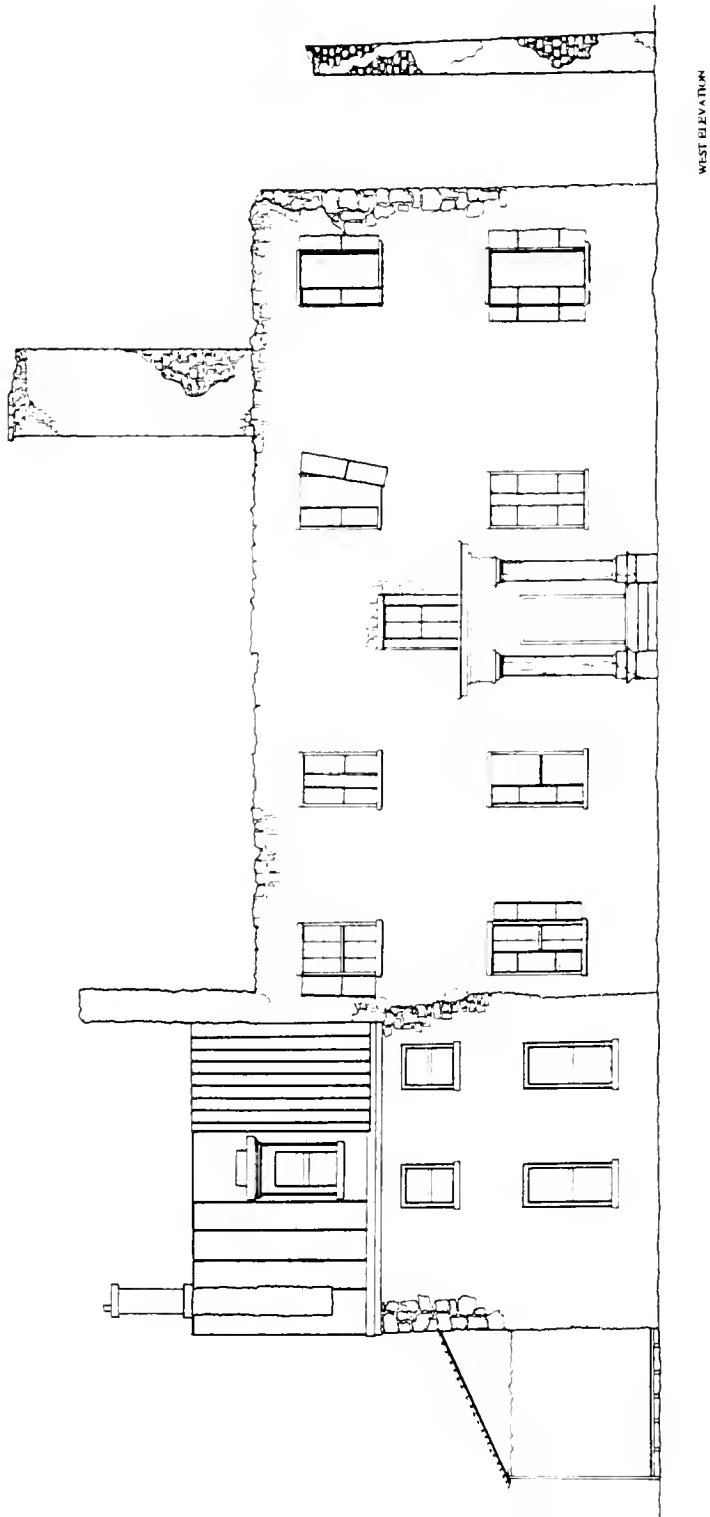


East Elevation, Drawn by Author, 1995

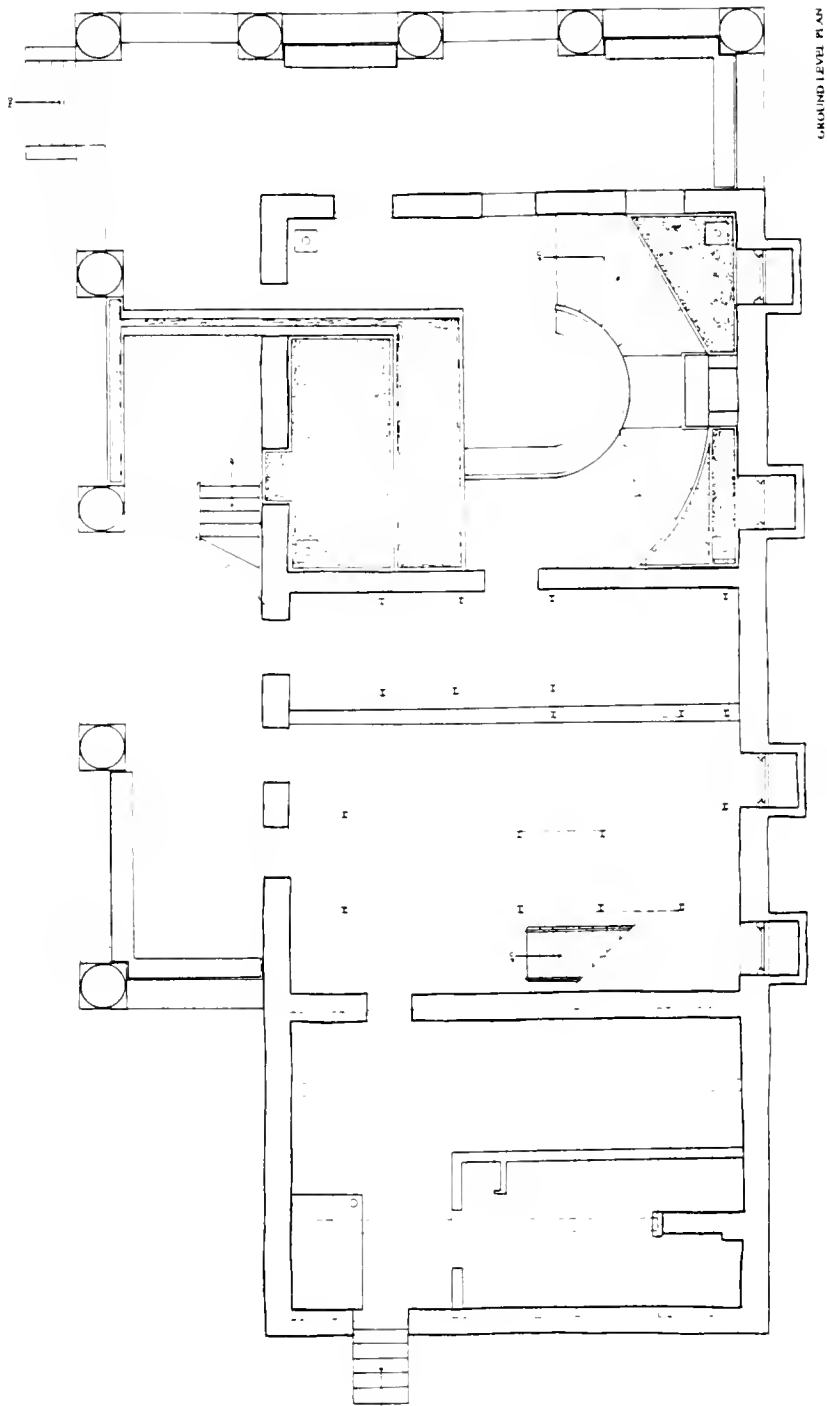


SOUTH ELEVATION

South Elevation, Drawn by Author, 1995

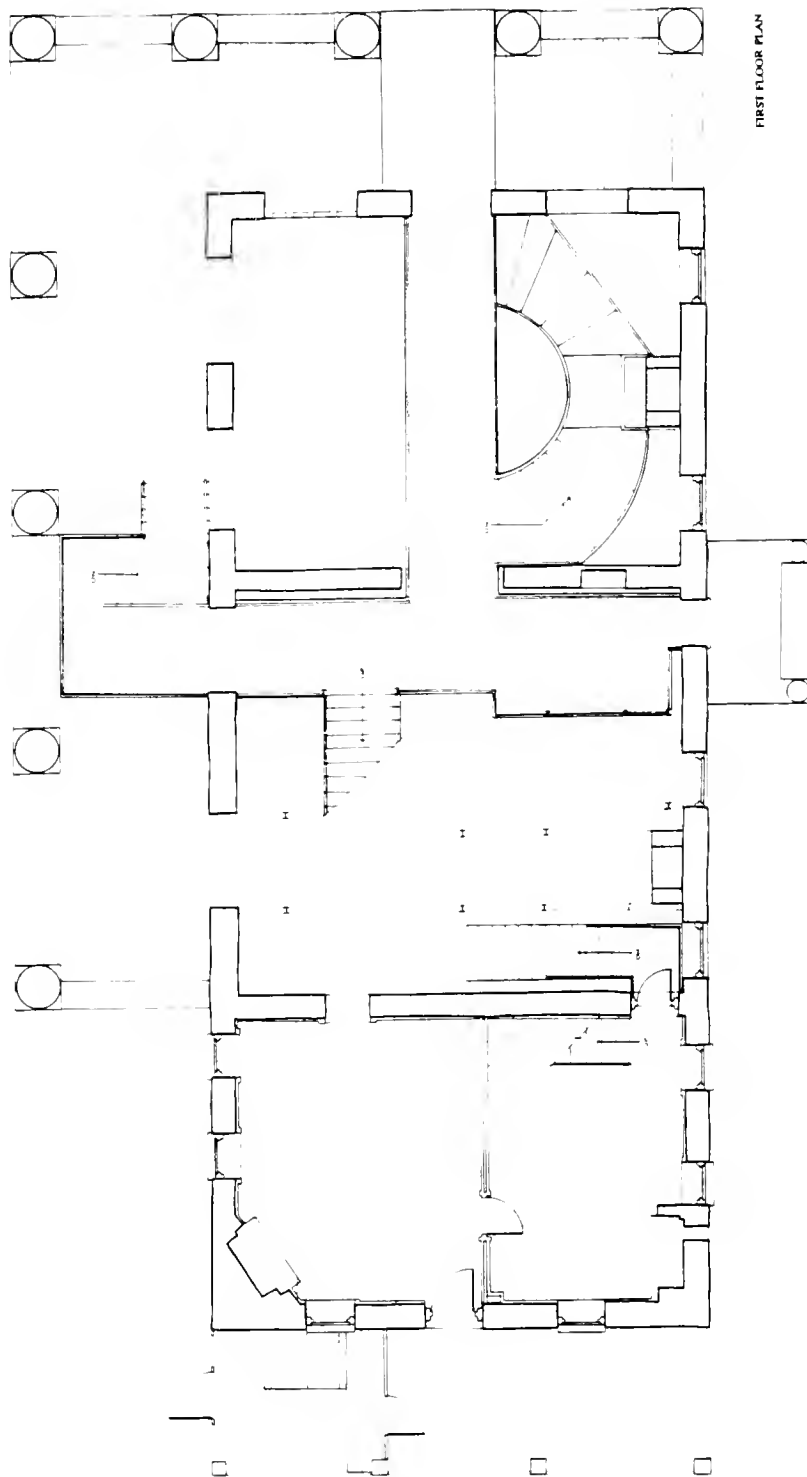


West Elevation, Drawn by Author, 1995

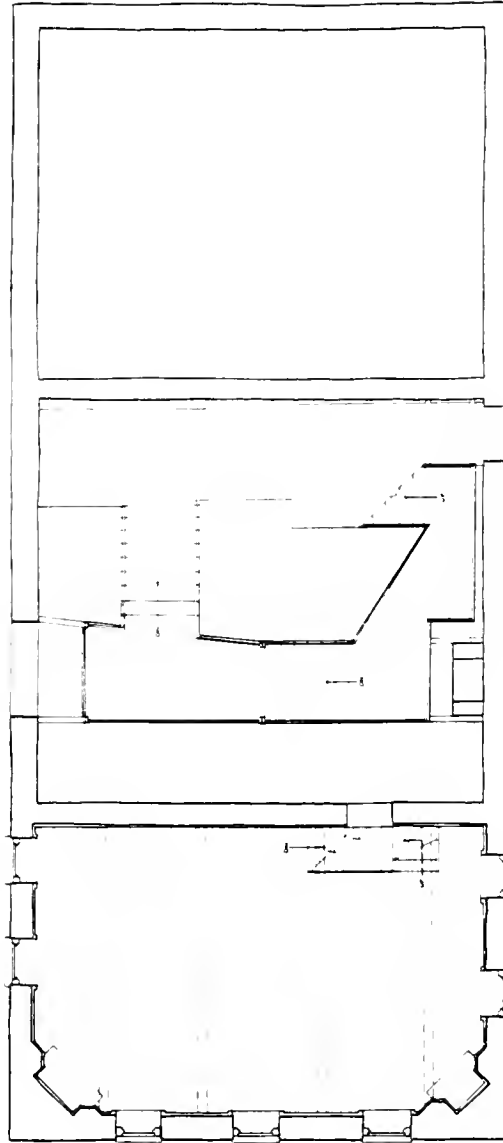


NO. 14 EAST GRINDING

Ground Level Plan, Drawn by Author, 1995

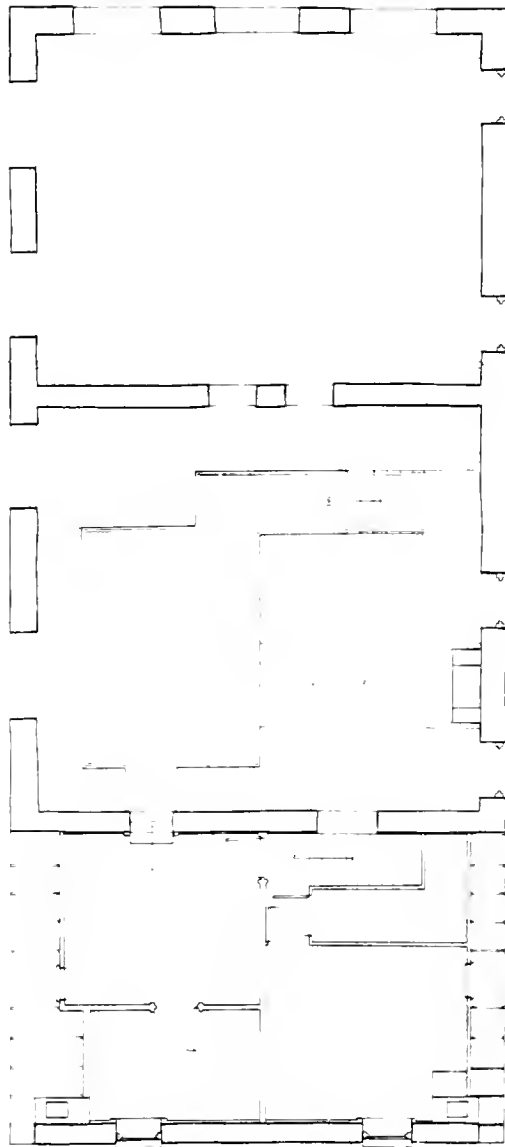


First Floor Plan, Drawn by Author, 1995



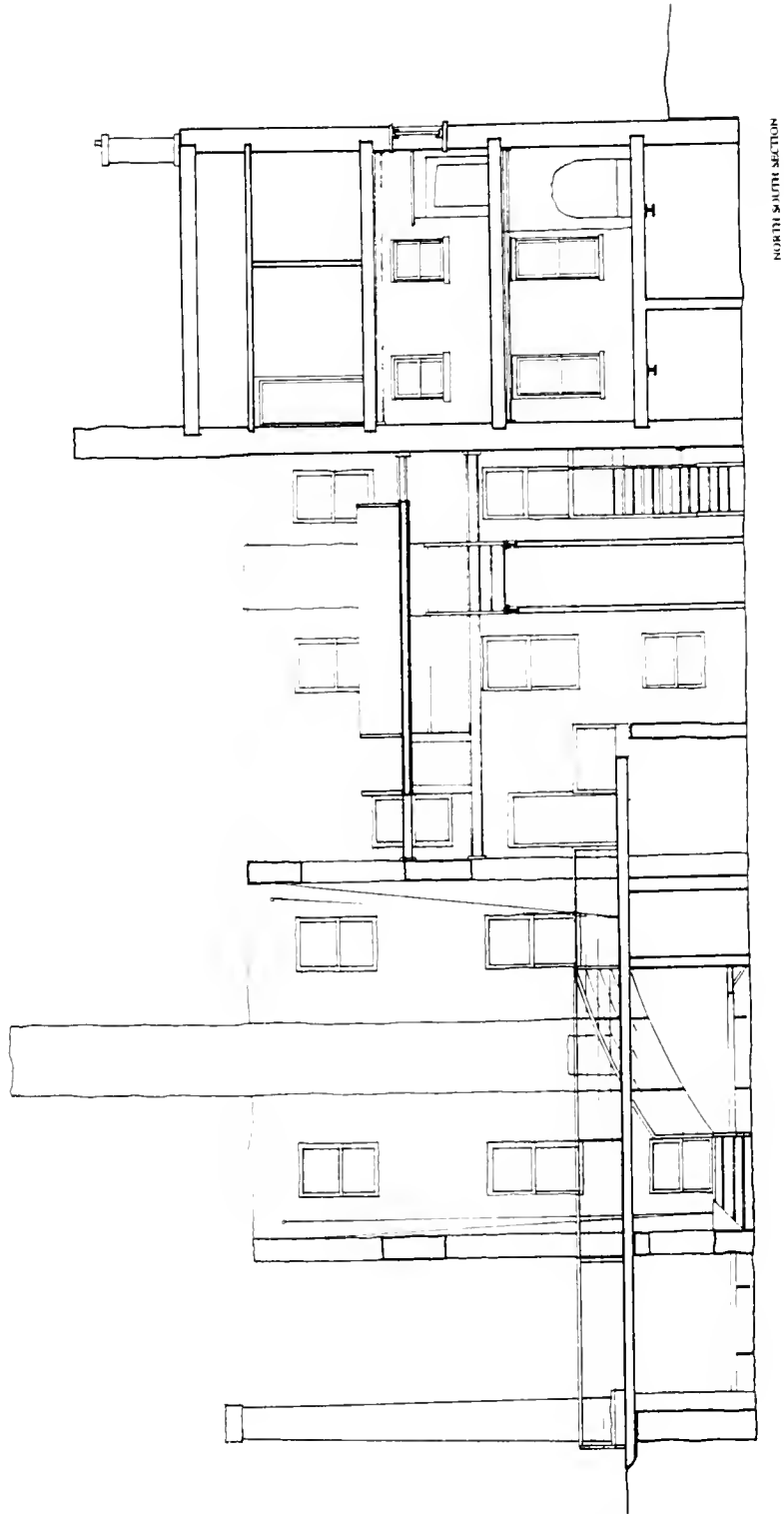
SECOND FLOOR PLAN

Second Floor Plan, Drawn by Author, 1995



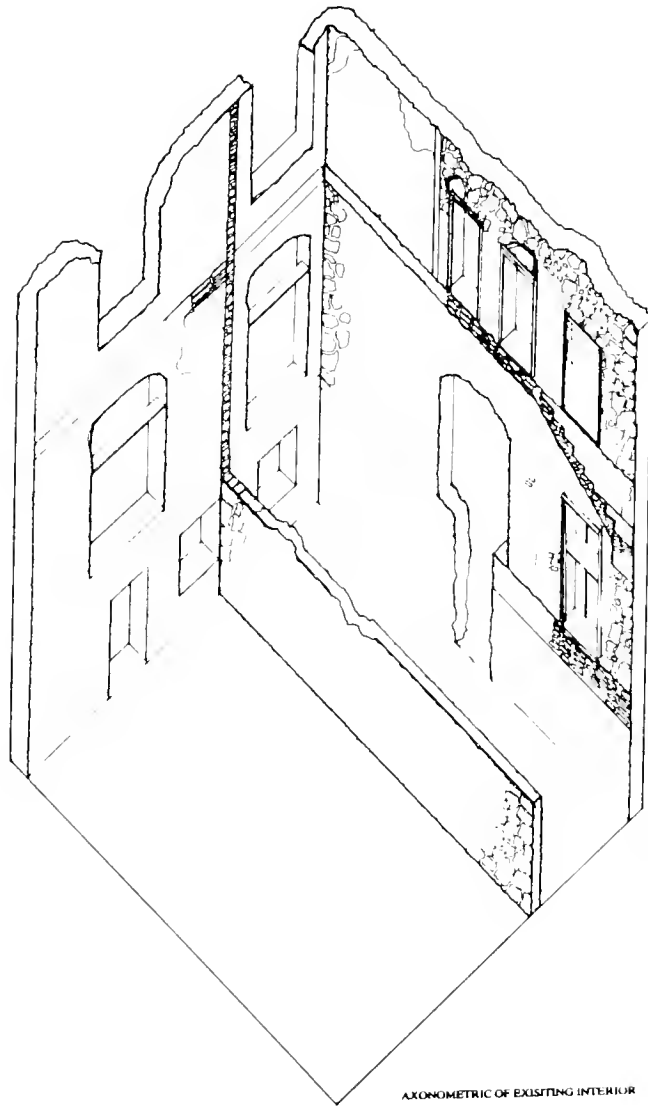
THIRD FLOOR PLAN

Third Floor Plan, Drawn by Author, 1995



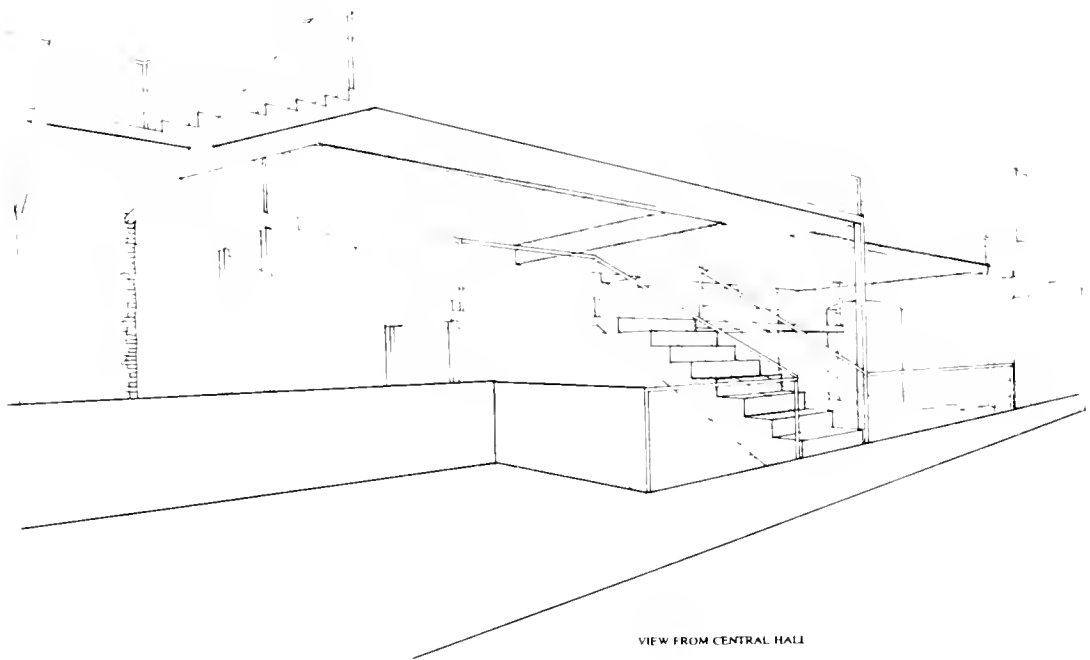
NORTH SOUTH SECTION

North-South Section, Drawn by Author, 1995

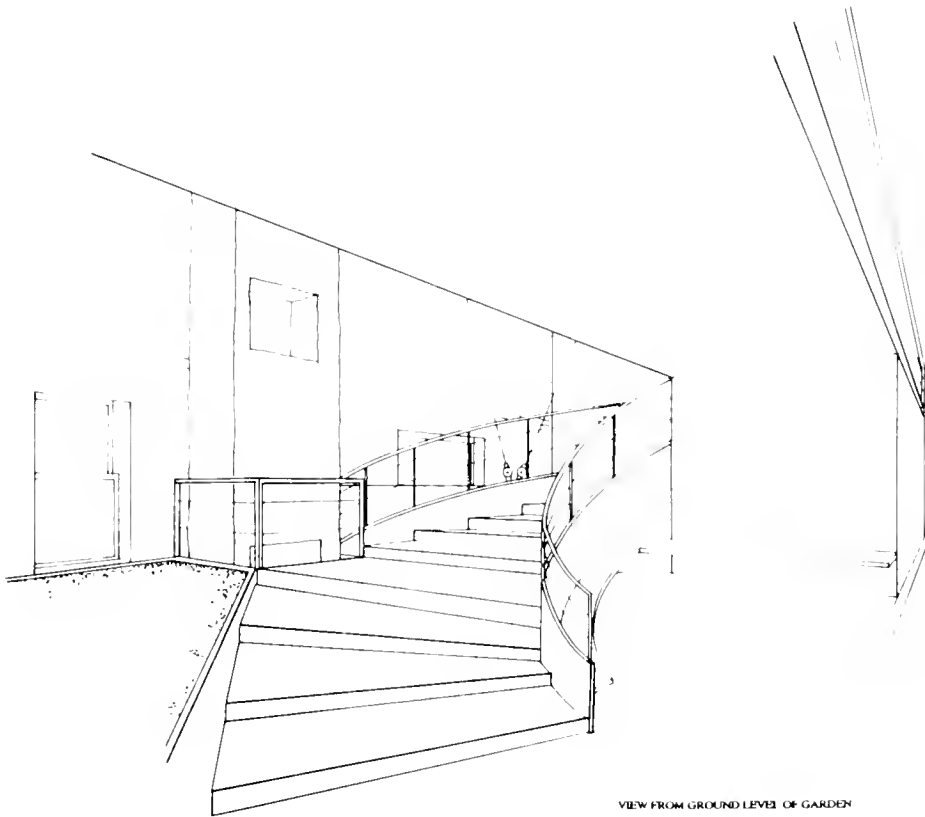


AXONOMETRIC OF EXISTING INTERIOR

Axonometric of Existing Interior, Drawn by Author, 1995

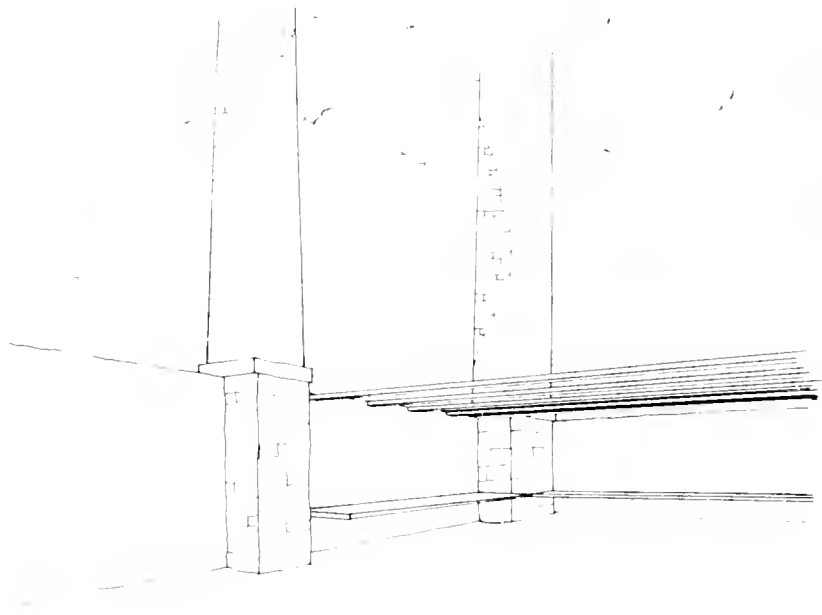


Perspective of Central Hall, Drawn by Author, 1995



VIEW FROM GROUND LEVEL OF GARDEN

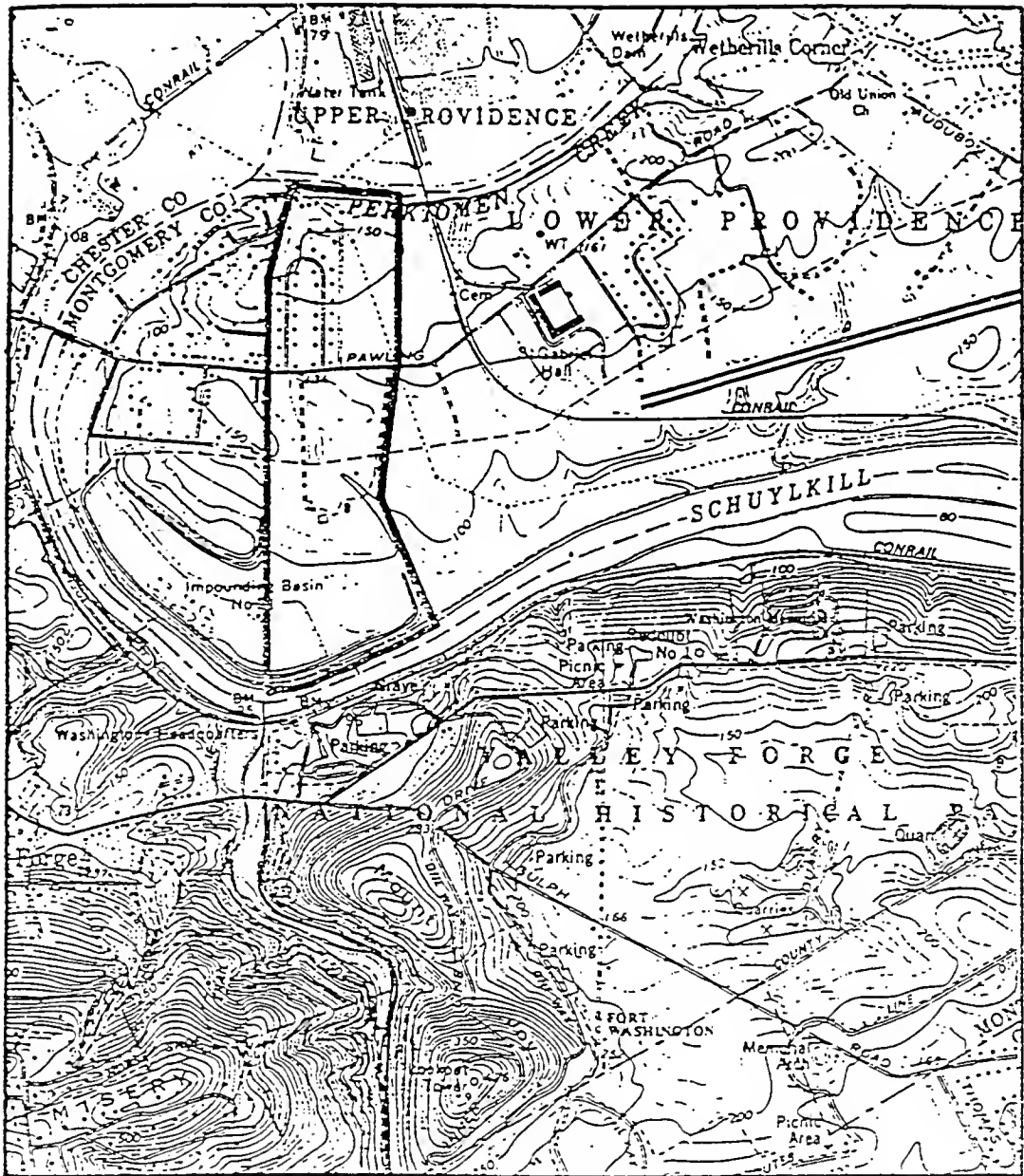
Perspective of Garden Area, Drawn by Author, 1995



SEATING AREA WITHIN PORCH

Perspective of Seating Area Within Porch, Drawn by Author, 1995

APPENDIX



Portion of
 VALLEY FORGE QUADRANGLE
 PENNSYLVANIA 7.5 Minute Series (Topographic)
 0 1000 2000
 FEET

Figure 1: Map of Valley Forge National Historical Park with the Walnut Hill Estate outlined. James E. Kurtz, "Archaeological Survey and Assessment: North of the Schuylkill river," (Draft), National Park Service, Mid-Atlantic Region, 1988.

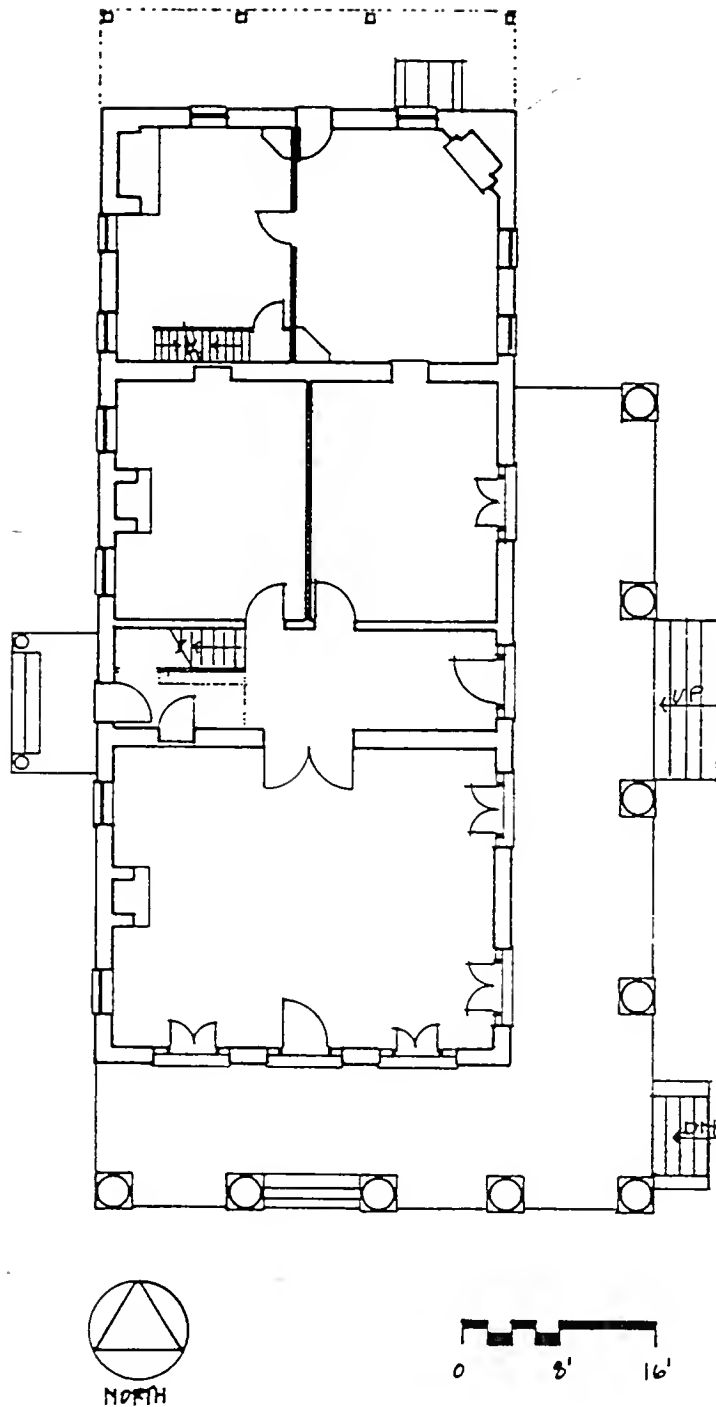
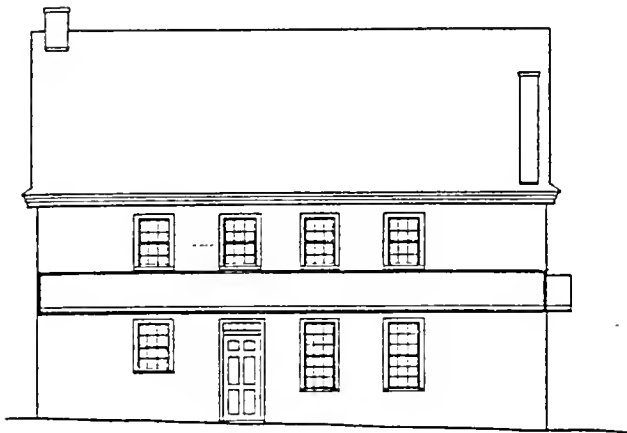
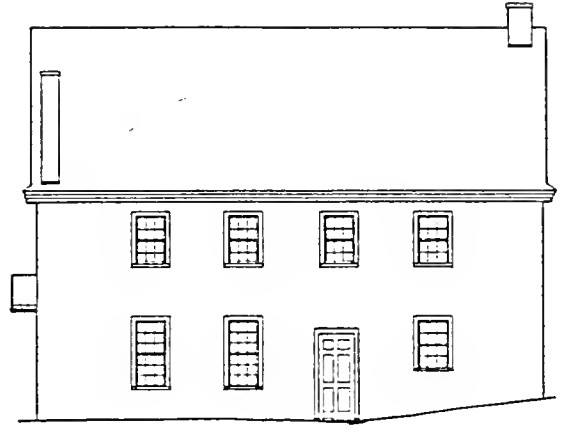


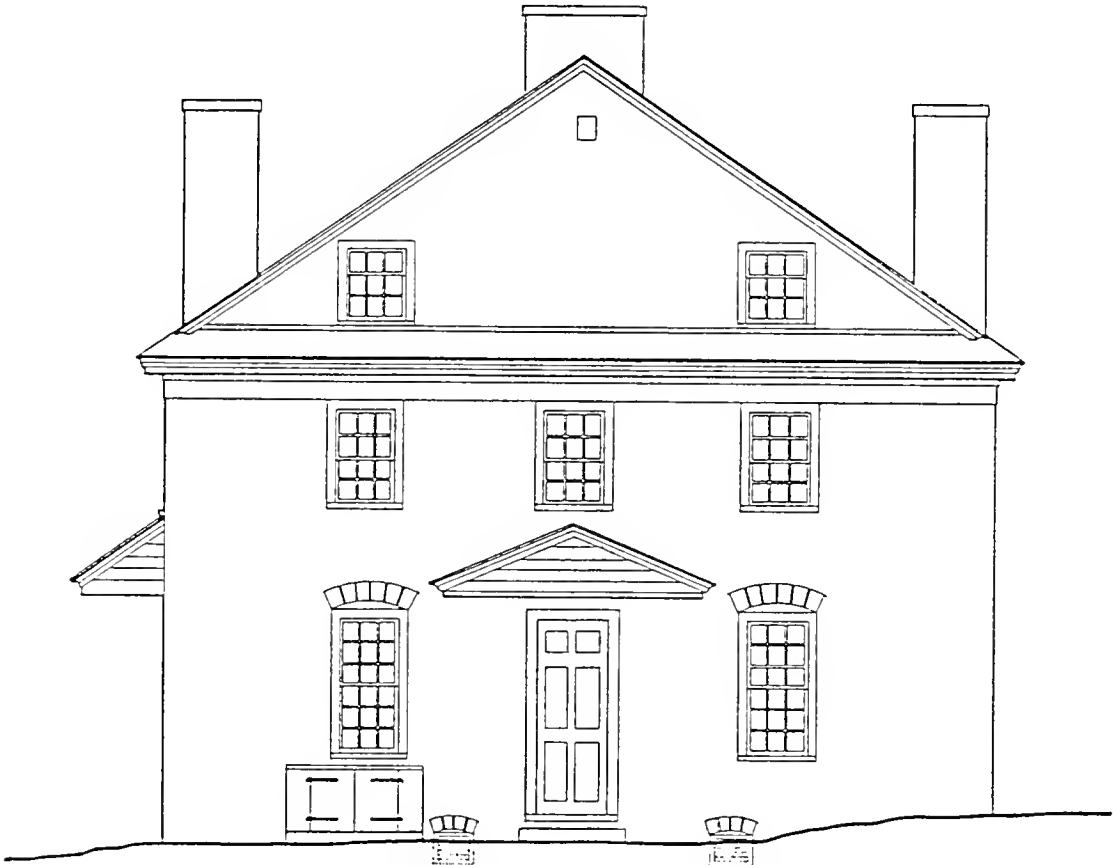
Figure 2: First Floor Plan of the Pawling/Wetherill House. Craig Morrison, "list 6 Classified Structures Enhancement, Walnut Hill Estate," report prepared for Valley Forge National Historical Park, (unpublished), Valley Forge, PA, 1987.



EAST ELEVATION



WEST ELEVATION



NORTH ELEVATION

Figure 3: Conjectural Elevations of the Pawling House prior to the Wetherill addition; Drawn by Thomas McGimsey, 1992.



Figure 4: Eastern Elevation of the Pawling/Wetherill House

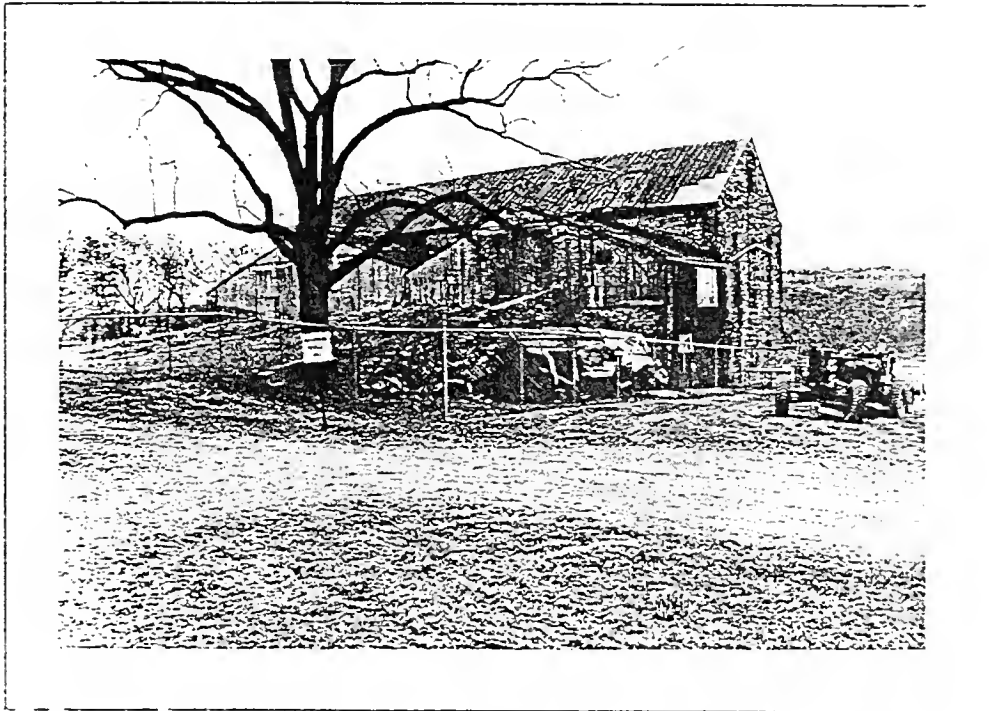


Figure 5: The Wetherill Barn, located on the Walnut Hill Estate

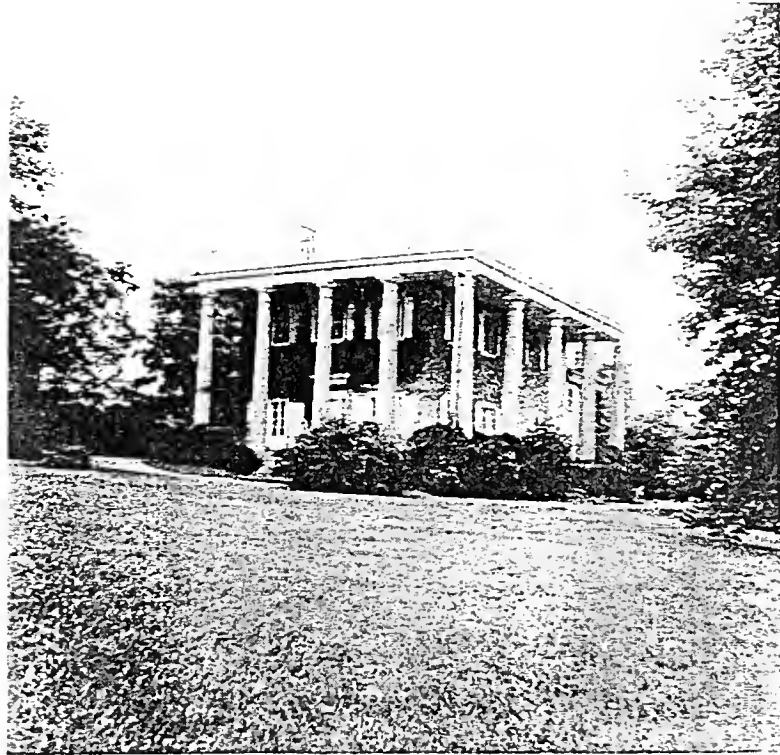


Figure 6: View of Wetherill addition, circa 1950

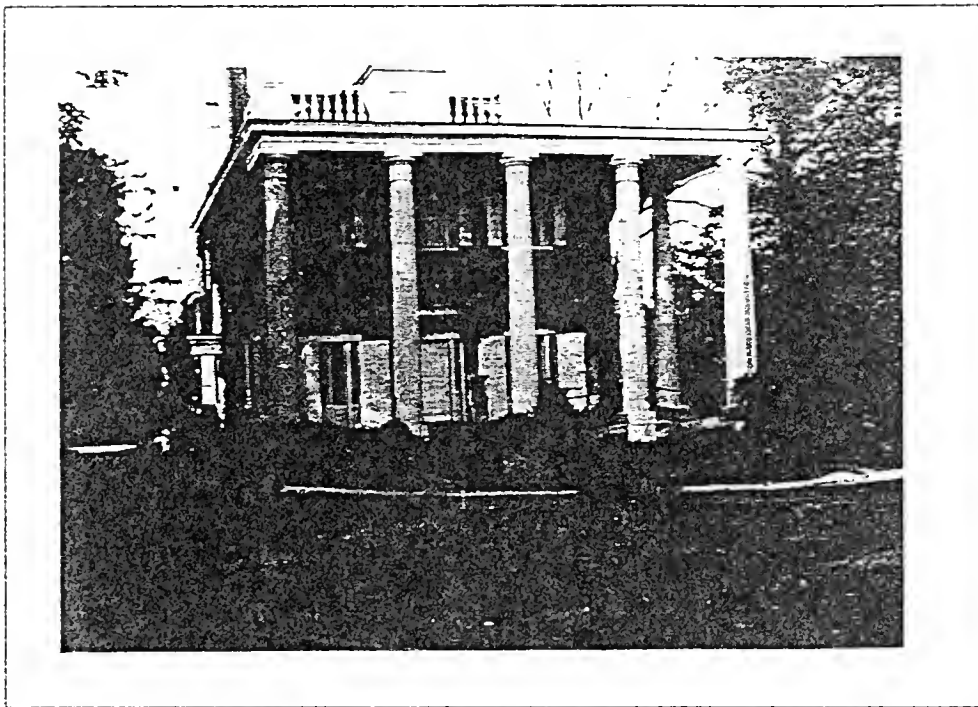


Figure 7: South Elevation of the Palwing/Wetherill House, circa 1950

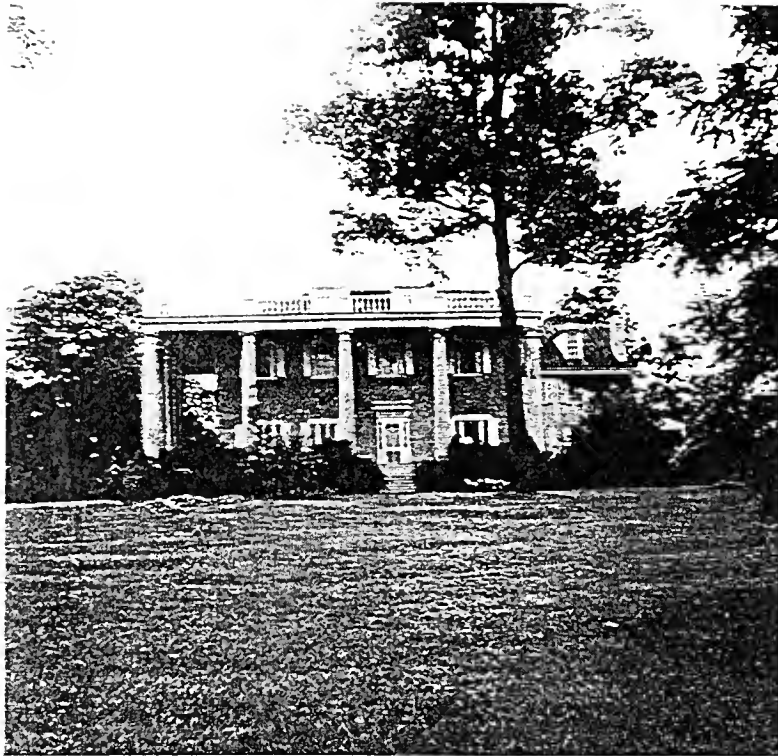


Figure 8: East Elevation of the Pawling/Wetherill House, circa 1950

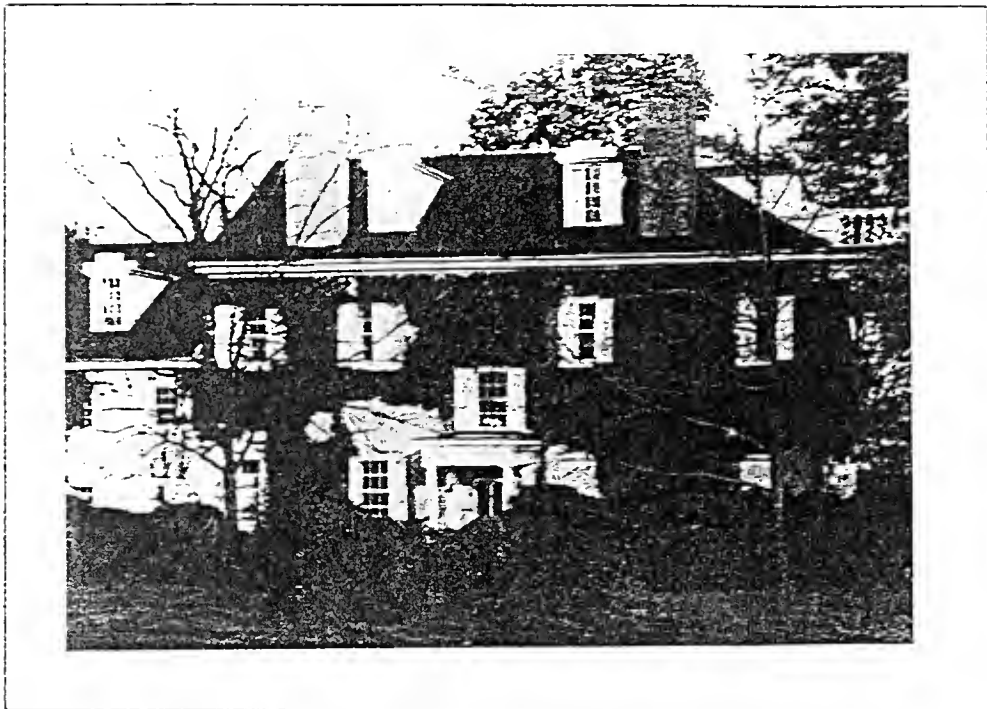


Figure 9: West Elevation of the Pawling/Wetherill House

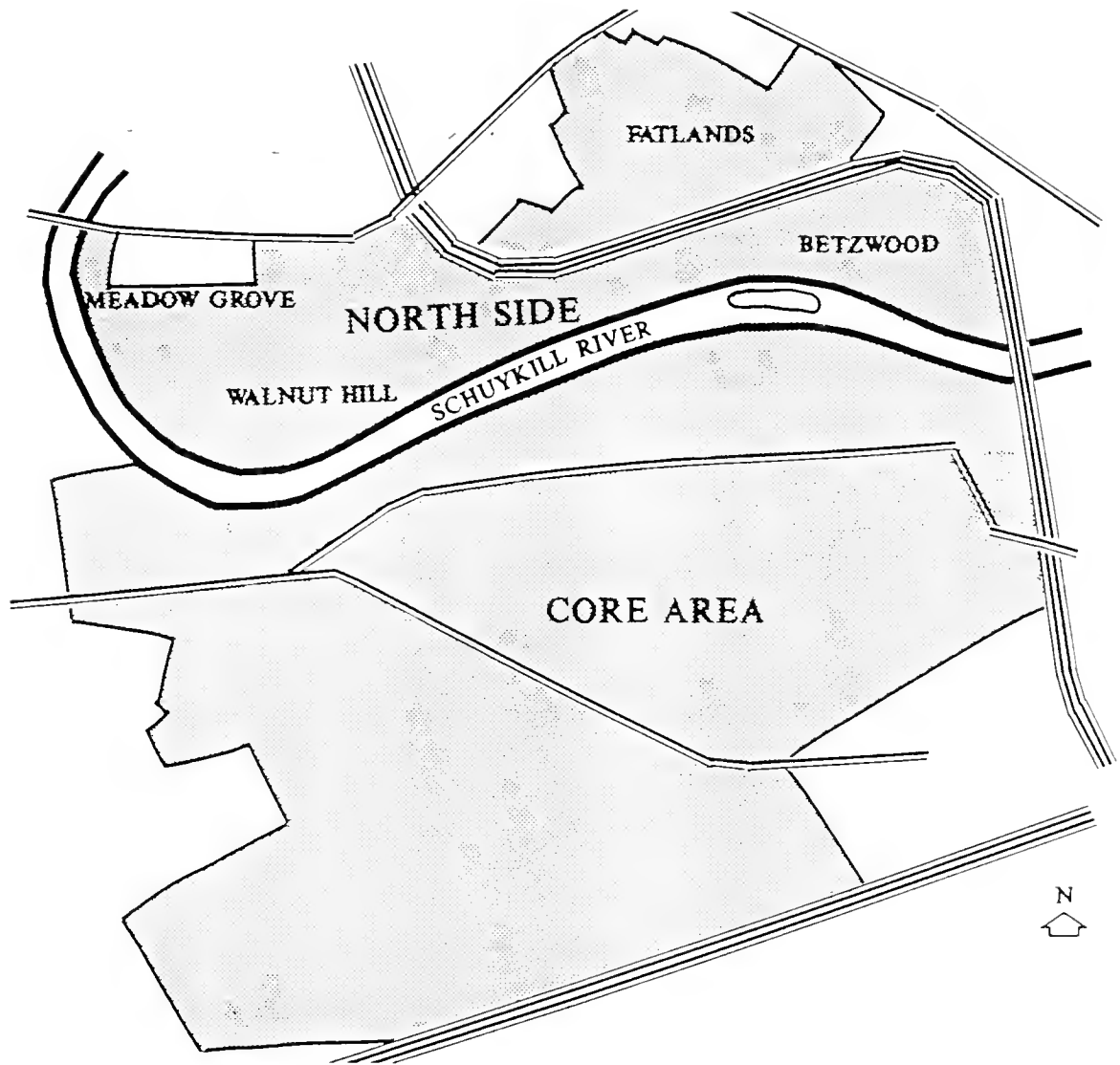


Figure 10: Map showing the four division of the north side of Valley Forge National Historical Park; "North Side development Concept Plan", 1994.



Figure 11: West Elevation of the Pawling/Wetherill House, 1995.



Figure 12: North Elevation of the Pawling/Wetherill House, 1995.



Figure 13: Connection along west wall between the Pawling section (to the left), and the Wetherill addition. Notice the height differential between the two sections and the continuous partition wall which separates them.



Figure 14: Joists along the first floor ceiling of the Pawling house



Figure 15: Second story summer beam with steel column as temporary additional support



Figure 16: Exterior of the Pawling section, east elevation



Figure 17: Second story corner fireplace of the Pawling section



Figure 18: Third story finished attic space of the Pawling section

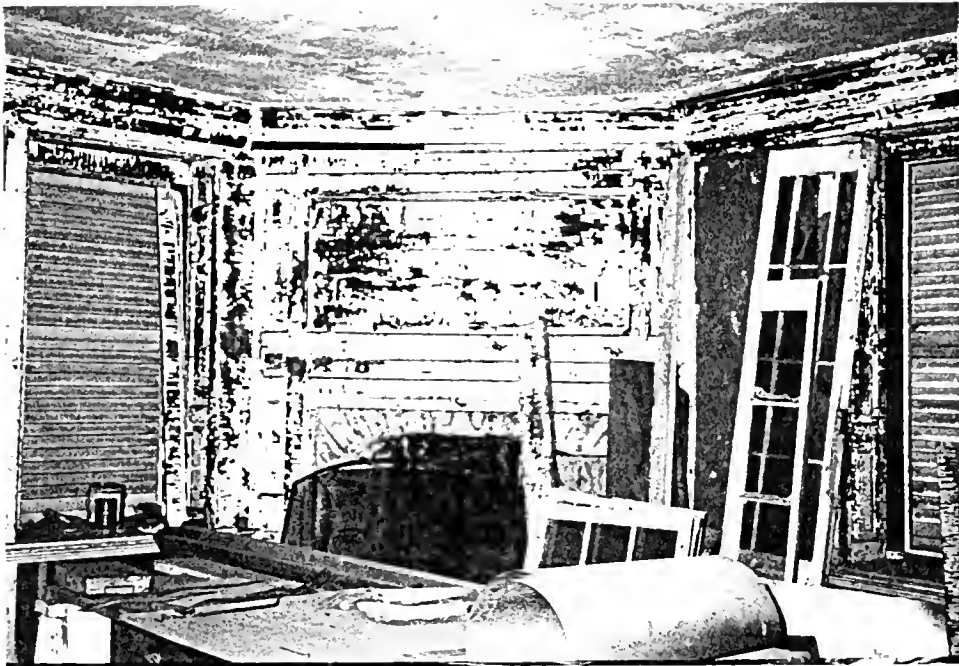


Figure 19: First story fireplace of the Pawling section



Figure 20: North interior elevation of the Wetherill addition, showing two remnants of beams and finished attic



Figure 21: Interior wall of Wetherill addition showing imprint of second story stair over previous central hall.



Figure 22: Basement Level lighting fixture and children's drawings on plaster



Figure 23: Second story plumbing for bathroom above central hall, leaning towards interior wall

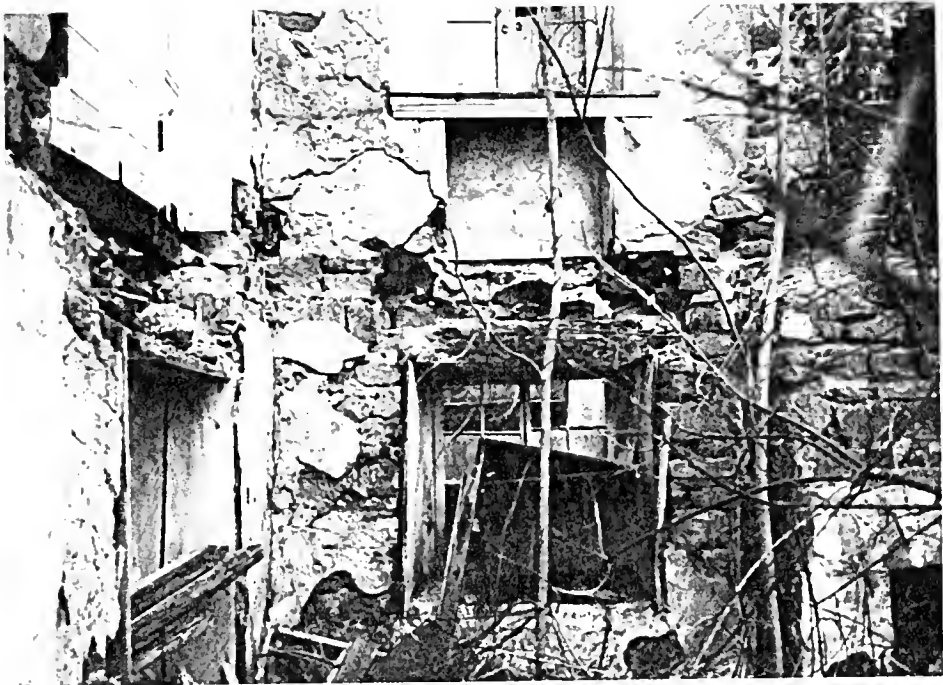


Figure 24: Heating vent along basement wall in southwest corner of the addition



Figure 25: Chimney in northern section of addition



Figure 26: Interior masonry wall of addition



Figure 27: Southernmost arched opening along east elevation, showing loss of stucco and missing bricks within the arch itself



Figure 28: Eastern archway of south elevation showing symmetrical cracking and brick loss



Figure 29: Interior view of archway shown in Figure 28



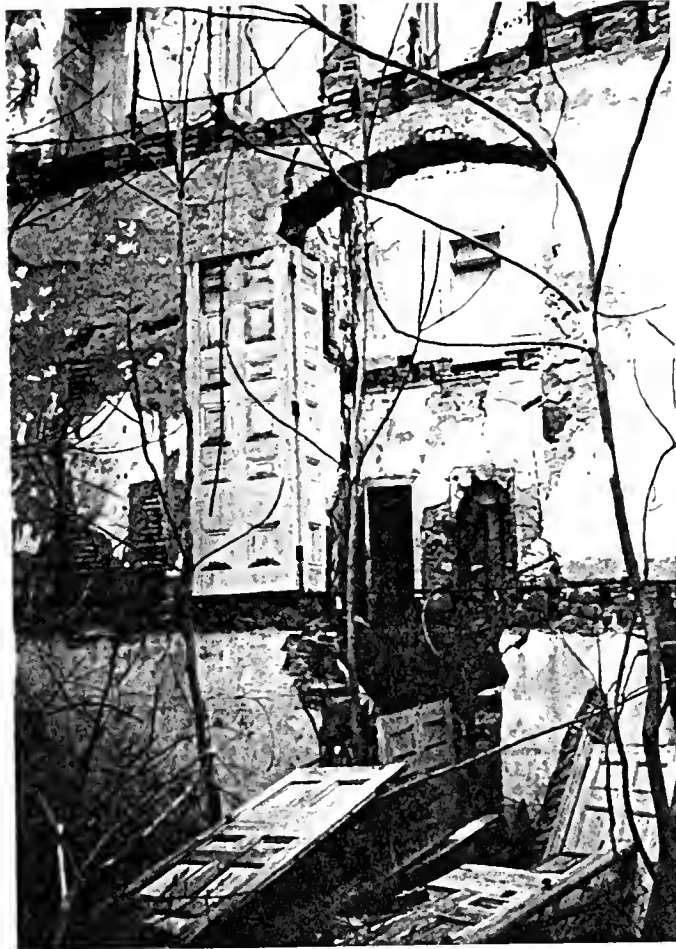


Figure 30: Northern view of interior wall showing two-story opening from basement to first floor.



Figure 31: South elevation of Pawling/Wetherill House



Figure 32: Interior view of window along east elevation

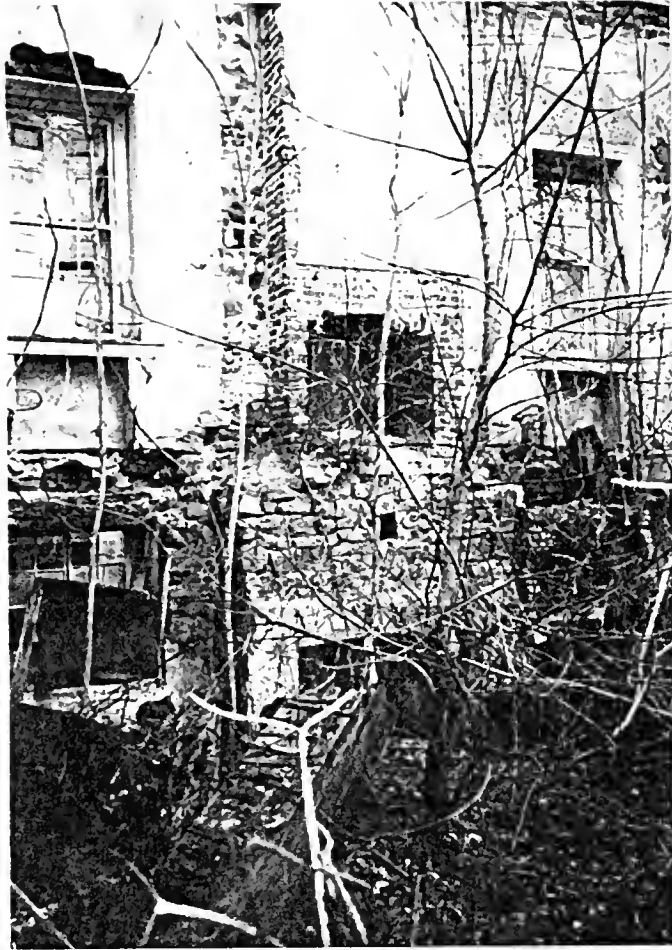


Figure 33: Southern chimney within addition



Figure 34: Northern chimney within addition



Figure 35: Northern interior wall of addition (connected to Pawling portion of house)



Figure 36: Northern interior wall showing finished attic



Figure 37: Typical column deterioration



Figure 38: View of columns showing overgrowth of vines



Figure 39: Ground level of south porch



Figure 40: Franklin Court, Philadelphia, PA, 1976.
Exterior view of courtyard and ghost structure



Figure 41: Franklin Court, "Fragments" Section,
Modern vertical circulation.



Figure 42: Display of architectural fabric at Franklin Court



Figure 43: Franklin Court; modern intervention within rental house

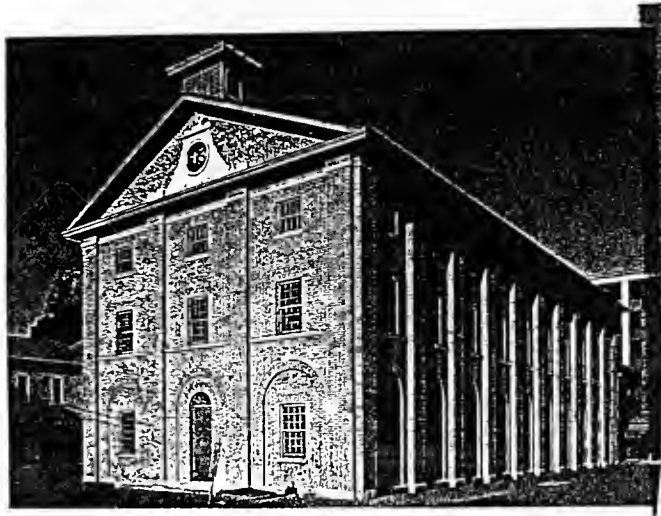


Figure 44: Hyde Park Barracks, Sydney, Australia, 1992.

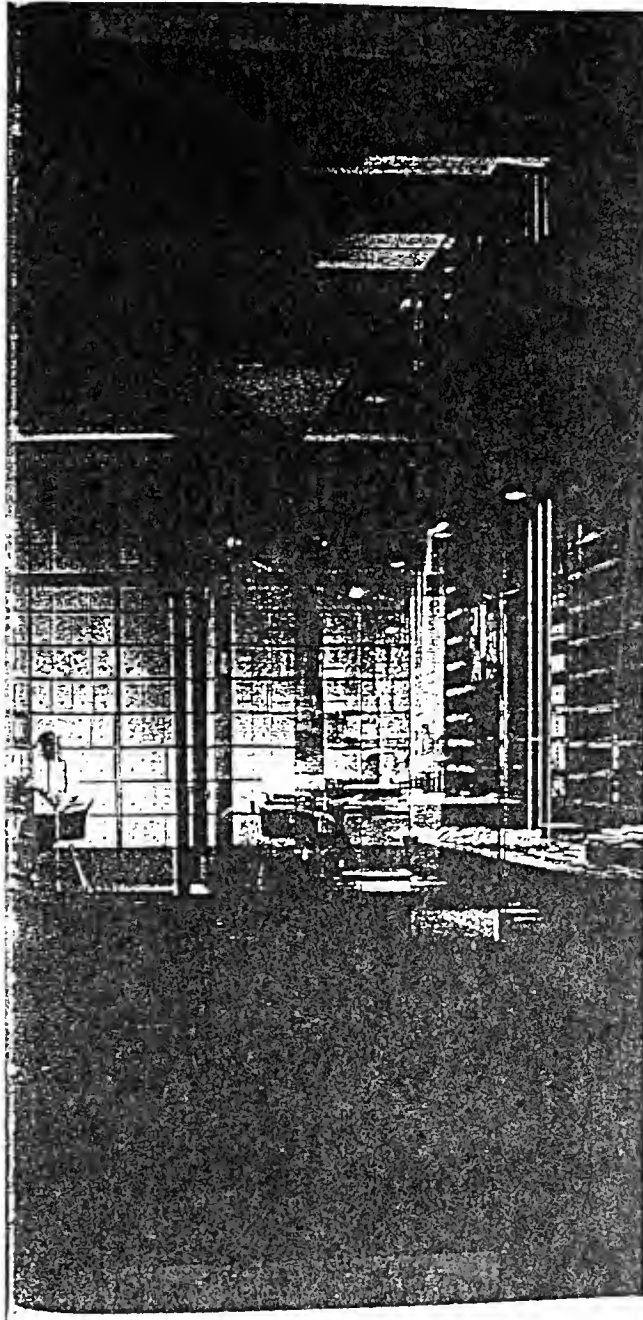


Figure 45: Interior view of Hyde Park Barracks



Figure 46: Fondazione Querini Stampalia, Venice.

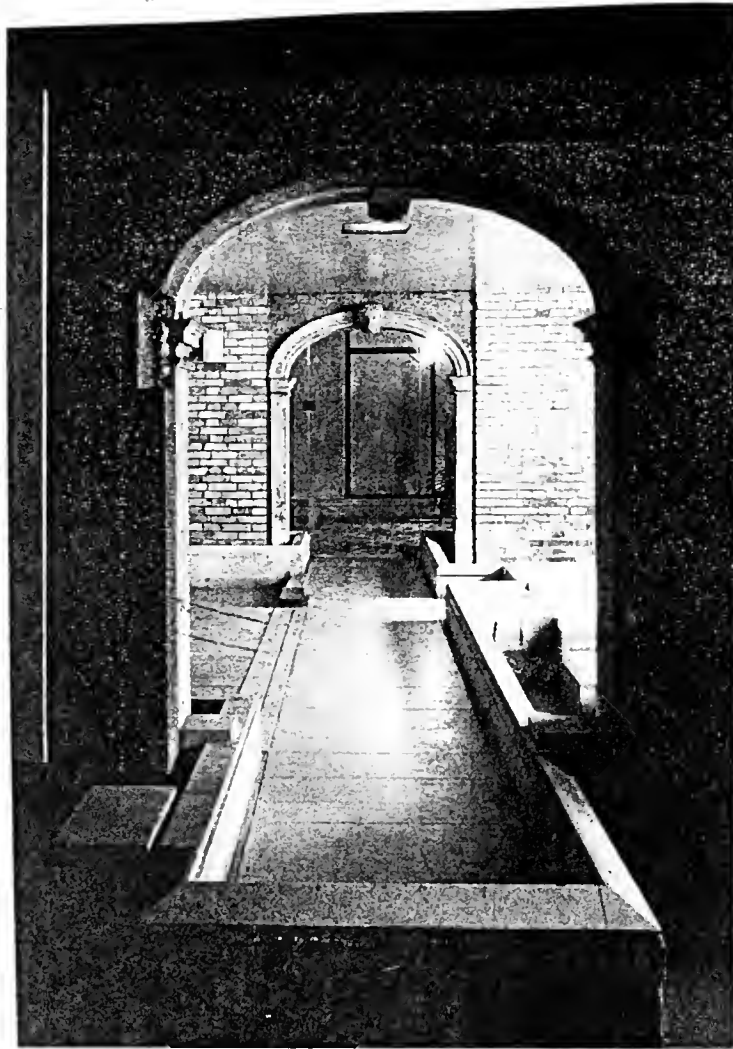


Figure 47: Fondazione Querini Stampalia renovation, ground floor
Carlo Scarpa, Architect.



Figure 48: Fondazione Querini Stampalia renovation,
Carlo Scarpa, Architect

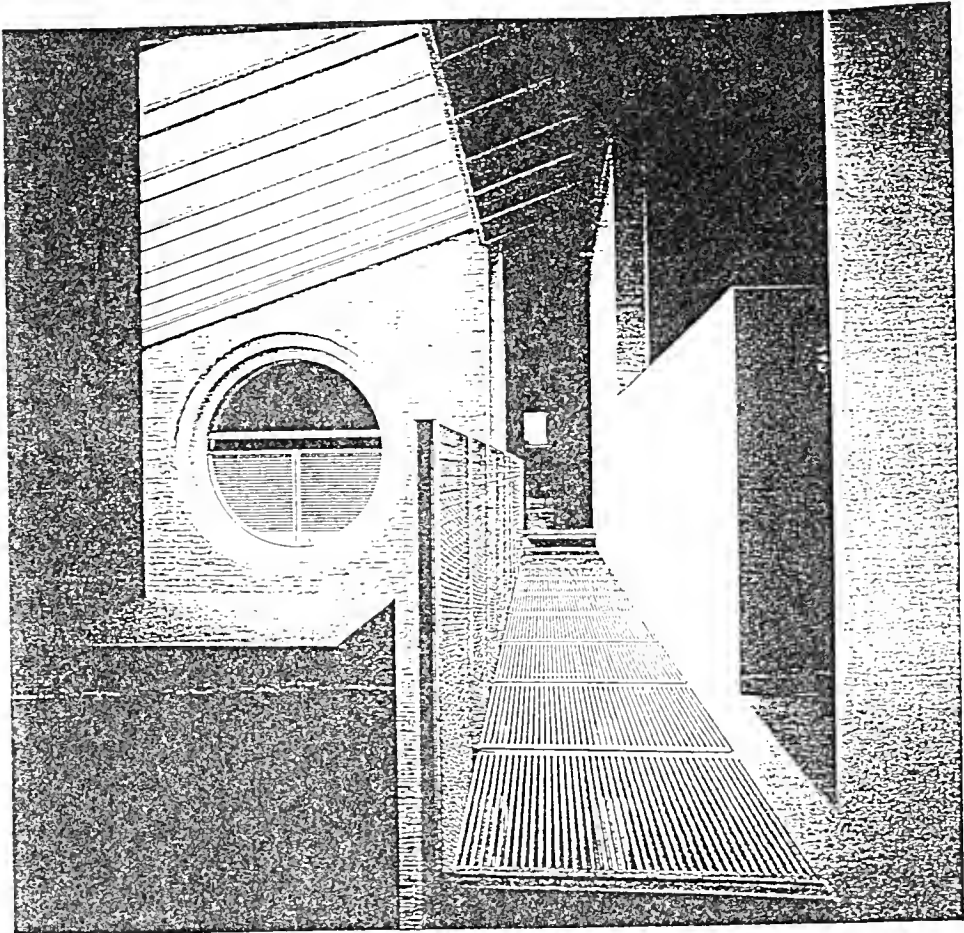


Figure 49: Palazzo Lanfranchi, interior view showing catwalk.

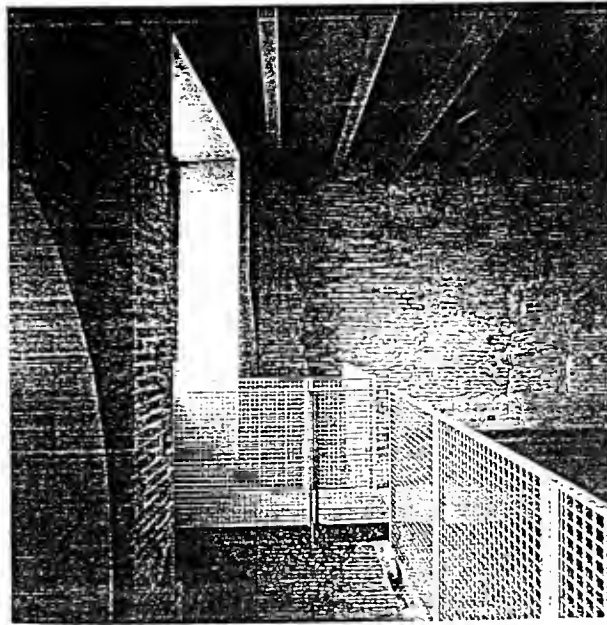


Figure 50: Interior view of Palazzo Lanfranchi showing physical separation between modern circulation and older structure.

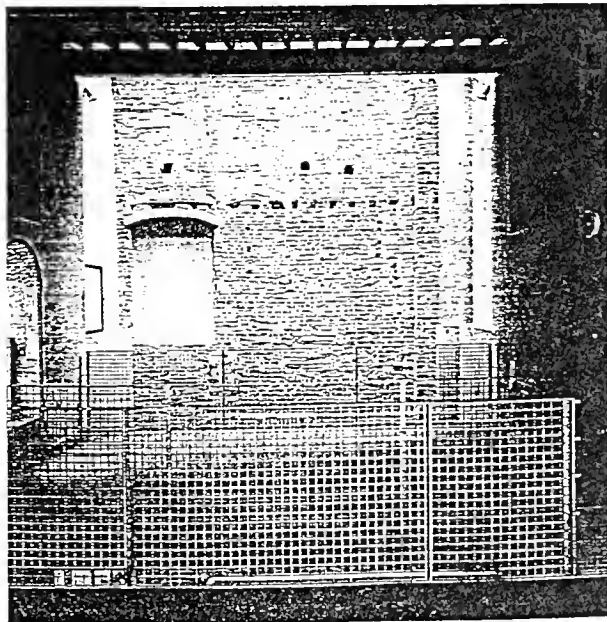


Figure 51: Interior view of "temporary" appearance of modern intervention.

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